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Journal of the Society of Arts.

FRIDAY, APRIL 12, 1861.

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INTERNATIONAL EXHIBITION OF 1862.—GUARANTEE DEED.

The Council beg to announce that the Guarantee Deed is now lying at the Society's House for signature, and they will be much obliged if those gentlemen who have given in their names as Guarantors, as well as others who take an interest in the Exhibition, will make it convenient to call there and attach their signatures to the Document. Signatures for sums amounting in the aggregate to £366,600, have already been attached to the Deed.

GUARANTEE FUND FOR THE EXHIBITION OF 1862.

The following additions have been made since the last announcement, in the *Journal* for April 5:—

*** *The names marked with an asterisk are those of Members of the Society of Arts.*

NAME.	AMOUNT.	REPRESENTING THE OBJECTS OF THE SOCIETY—ARTS, MANUFACTURES, AND COMMERCE.
Robert Cradock Nicholls, 5, Westbourne Park-place, W.	£100	Arts.
*George Augustus Elliott, 13*a*, Belgrave-square, S.W.	100	Arts.
*Conrad Wetter, 67, Myddleton-square, E.C.	100	Commerce.
George S. Sandeman, 15, Hyde-park-gardens, W.	1,000	Commerce.
Joseph Buck, 124, Newgate-street, E.C.	100	Commerce.
Thomas Blackwell, (Crosse and Blackwell,) Soho-square, W.	300	Commerce.
Mrs. H. Brown, Stratton-street, Piccadilly, W.	500	Arts.
Jethro Hornblower, (Hornblower, Fenwick and Co.,) 50, Mark-lane, E.C. ...	500	Commerce.
*William Donald, 69, Regent-street, W.	100	Commerce.
Alfred Webb Miles, 73, Brook-street, W.	300	Commerce.
*Joseph Sharples, Hitchin	200	Commerce.
Robert Ballard Woodd, 108, New Bond-street, W.	500	Commerce.
Charles Davy, 100, Upper Thames-street, E.C.	100	Commerce.
William Watkins, 52, Lime-street, E.C.	100	Commerce.
Edward Roberts, F.S.A., 25, Parliament-street, S.W.	100	Arts.
William James Cockerill, 167, Piccadilly, W.	100	Commerce.
John Savory, 143, New Bond-street, W.	500	Commerce.
*Frederick William Aley, 8, Thurloe-place, S.W.	100	Arts.
Webster and Horsfall, Birmingham	500	Manufactures.
Thomas Cole, 6, Castle-street, Holborn, E.C.	100	Manufactures.
Samuel Fisher, 33, Southampton-street, Strand, W.C.	100	Commerce.
Frederick Sawyer, the London, 191, Fleet-street, E.C.	2,500	Commerce.
Thurston and Co., 14, Catherine-street, Strand, W.C.	500	Manufactures.
Arthur Bernard White, 83, Inverness-terrace, Kensington, W.	100	Arts.
Charles Asprey, 166, New Bond-street, W.	1,000	Commerce.
J. Nisbet and Co., 21, Berners-street, W.	100	Commerce.

By Order,

P. LE NEVE FOSTER, *Secretary.*

INTERNATIONAL EXHIBITION OF 1862.

Her Majesty's Commissioners have appointed the following Committees of Advice:—

Finance.

Rt. Hon. Robert Lowe, M.P.
Sir A. Spearman, National Debt Office.
T. F. Gibson, Esq.
E. A. Bowring, Esq., Board of Trade.
H. Thring, Esq., 16, Duke-street, Westminster, S.W.
Lord Frederick Cavendish, *Honorary Secretary.*

Building.

The Earl Shelburne.
William Baker, Esq., C.E.
William Fairbairn, Esq., LL.D., F.R.S.

Fine Arts.

The Duke of Buccleuch, K.G.
The Marquis of Lansdowne, K.G.
The Marquis of Hertford, K.G.
The Earl Spencer.
The Earl Stanhope.
The Earl of Malmesbury.
The Earl Somers.
The Earl of Dudley.

The Lord Ashburton.
The Lord Overstone.
The Lord Talbot de Malahide.
The Lord Llanover.
The Lord Taunton.
The Lord Elcho, M.P.
The Lord Chief Baron.
Sir Stafford Northcote, Bart., M.P.
Sir Francis Scott, Bart.
Thomas Ashton, Esq.
R. Henry Cheney, Esq.
Rev. E. Coleridge.
E. C. Field, Esq.
R. S. Holford, Esq., M.P.
H. T. Hope, Esq.
John Ruskin, Esq.
William Stirling, Esq., M.P.
S. J. Stern, Esq.
Tom Taylor, Esq.
John Walter, Esq., M.P.
W. Wells, Esq.
The President of the Royal Academy.
The President of the Royal Scottish Academy.
The President of the Royal Hibernian Academy.
The President of the Old Society of Painters in Water Colours.
The President of the Society of British Artists.
The President of the New Society of Painters in Water Colours.
The President of the Institute of British Artists.
The President of the Royal Institute of British Architects.
P. Le Neve Foster, Esq., *Secretary.*

ORGANIZATION OF COMMITTEES OF CLASSES.

The Marquis of Hartington, M.P.
The Lord Stanley, M.P.
The Lord Naas, M.P.
The Lord Stanley of Alderley.
The Right Hon. the Lord Mayor of London.
The President of the Board of Trade.
The Vice-President of the Board of Trade.
Thomas Bazley, Esq., M.P.
T. F. Gibson, Esq.
Dr. Lyon Playfair, C.B.
H. Cole, Esq., C.B.
W. Dargan, Esq.
The President of the Royal Agricultural Society.
The Chairman of the Society of Arts.
The Chairman of the Royal Dublin Society.
The President of the Institution of Civil Engineers.
The President of the Institution of Mechanical Engineers.
Presidents of Chambers of Commerce.
Edgar A. Bowring, Esq., *Honorary Secretary.*

DECISIONS OF HER MAJESTY'S COMMISSIONERS ON POINTS RELATING TO THE EXHIBITION.

MARCH, 1861.

Her Majesty's Commissioners have fixed upon Thursday, the 1st day of May, 1862, for opening the Exhibition.

The Exhibition building will be erected on a site adjoining the gardens of the Royal Horticultural Society, and in the immediate neighbourhood of the ground occupied in 1851, on the occasion of the first International Exhibition.

The portion of the building to be devoted to the exhibition of Pictures, will be erected in brick, and will occupy the entire front towards Cromwell-road; the portion in which Machinery will be exhibited will extend along Prince Albert's-road, on the west side of the gardens.

All works of industry to be exhibited should have been produced since 1850.

Subject to the necessary limitation of space, all persons, whether designers, inventors, manufacturers, or producers of articles will be allowed to exhibit; but they must state the character in which they do so.

Her Majesty's Commissioners will communicate with Foreign and Colonial exhibitors only through the Commission which the Government of each Foreign Country or Colony may appoint for that purpose; and no article will be admitted from any Foreign Country or Colony without the sanction of such Commission.

No rent will be charged to exhibitors.

Prizes, or rewards for merit, in the form of medals, will be given in the Industrial Department of the Exhibition.

Prices may be affixed to the articles exhibited.

Every article produced or obtained by human industry, whether of

Raw materials,
Machinery
Manufactures, or
Fine Arts,

will be admitted to the Exhibition, with the exception of

1. Living animals and plants.
2. Fresh vegetable and animal substances, liable to spoil by keeping.
3. Detonating or dangerous substances.

Spirits, or alcohols, oils, acids, corrosive salts, and substances of a highly inflammable nature, will not be admitted, unless sent in well secured glass vessels.

The articles exhibited will be divided into the following classes:—

SECTION 1.

Class 1. Mining, Quarrying, Metallurgy, and Mineral Products.
,, 2. Chemical Substances and Products, and Pharmaceutical Processes.
,, 3. Substances used for Food, including Wines.
,, 4. Animal and Vegetable Substances used in Manufactures.

SECTION 2.

Class 5. Railway plant, including Locomotive Engines and Carriages.
,, 6. Carriages not connected with Rail or Tram Roads.
,, 7. Manufacturing Machines and Tools.
,, 8. Machinery in general.
,, 9. Agricultural and Horticultural Machines and Implements.
,, 10. Civil Engineering, Architectural, and Building Contrivances.
,, 11. Military Engineering, Armour and Accoutrements, Ordnance, and Small Arms.
,, 12. Naval Architecture, Ship's Tackle.
,, 13. Philosophical Instruments and Processes depending upon their use.
,, 14. Photographic Apparatus and Photography.
,, 15. Horological Instruments.
,, 16. Musical Instruments.
,, 17. Surgical Instruments and Appliances.

SECTION 3.

,, 18. Cotton.
,, 19. Flax and Hemp.
,, 20. Silk and Velvet.
,, 21. Woollen and Worsted, including Mixed Fabrics generally.
,, 22. Carpets.
,, 23. Woven, Spun, Felted, and Laid Fabrics, when shown as specimens of Printing or Dyeing.
,, 24. Tapestry, Lace, and Embroidery.
,, 25. Skins, Fur, Feathers, and Hair.
,, 26. Leather, including Saddlery and Harness.
,, 27. Articles of Clothing.
,, 28. Paper, Stationery, Printing, and Book-binding.
,, 29. Educational Works and Appliances.
,, 30. Furniture and Upholstery, including Paper-hangings and Papier-mâché.
,, 31. Iron, and General Hardware.
,, 32. Steel and Cutlery.
,, 33. Works in Precious Metals, and their imitations, and Jewellery.
,, 34. Glass.
,, 35. Pottery.
,, 36. Manufactures not included in previous classes.

SECTION 4.

,, 37. Architecture.
,, 38. Paintings in Oil and Water Colours, and Drawings.

Class 39. Sculpture, Models, Die-sinking, and Intaglios.
„ 40. Etchings and Engravings.

Her Majesty's Commissioners will be prepared to receive all articles which may be sent to them, on or after Wednesday, the 12th of February, and will continue to receive goods until Monday, the 31st of March, 1862, inclusive.

Articles of great size or weight, the placing of which will require considerable labour, must be sent before Saturday, the 1st of March, 1862; and manufacturers wishing to exhibit machinery, or other objects, that will require foundations or special constructions, must make a declaration to that effect on their demands for space.

Any exhibitor whose goods can properly be placed together, will be at liberty to arrange such goods in his own way, provided his arrangement is compatible with the general scheme of the Exhibition, and the convenience of other exhibitors.

Where it is desired to exhibit processes of manufacture, a sufficient number of articles, however dissimilar, will be admitted for the purpose of illustrating the process; but they must not exceed the number actually required.

Exhibitors will be required to deliver their goods at the building, and to unpack and arrange them, at their own charge and risk; and all articles must be delivered with the freight, carriage, porterage, and all charges and dues upon them paid.

Packing cases must be removed at the cost of the exhibitor or his agent, as soon as the goods are examined and deposited in charge of the Commissioners.

Exhibitors will be permitted, subject only to the necessary general regulations, to erect, according to their own taste, all the counters, stands, glass frames, brackets, awnings, hangings, or similar contrivances which they may consider best calculated for the display of their goods.

Exhibitors must be at the charge of insuring their own goods, should they desire this security. Every precaution will be taken to prevent fire, theft, or other losses, and Her Majesty's Commissioners will give all the aid in their power for the legal prosecution of any persons guilty of robbery or wilful injury in the Exhibition, but they will not be responsible for losses or damage of any kind which may be occasioned by fire or theft, or in any other manner.

Exhibitors may employ assistants to keep in order the articles they exhibit, or to explain them to visitors, after obtaining written permission from Her Majesty's Commissioners; but such assistants will be forbidden to invite visitors to purchase the goods of their employers.

Her Majesty's Commissioners will provide shafting, steam (not exceeding 30 lbs. per inch), and water, at high pressure, for machines in motion.

Intending exhibitors, in the United Kingdom, are requested to apply to the Secretary to Her Majesty's Commissioners, at the offices, 454, West Strand, London, W.C., for a *Form of Demand for Space*, stating at the same time in which of the four Sections they wish to exhibit.

Foreign and Colonial exhibitors should apply to the Commission, or other Central Authority appointed by the Foreign or Colonial Government, as soon as notice has been given of its appointment.

Her Majesty's Commissioners having consulted a Committee as to the organization of the Fine Art Department of the Exhibition, will publish the rules relating thereto at a future date.

By Order,
F. R. SANDFORD, Secretary.

Offices of Her Majesty's Commissioners,
454, West Strand, London, W.C.

ARRANGEMENT OF THE EXHIBITION OF 1862.

The following letter has been addressed by the Royal Wurtemburg Central Board of Trade and Manufactures to the Secretary of the Society of Arts:—

Stuttgart, 4th April, 1861.

Sir,—It is with much pleasure that we received, some time ago, the news of an International Exhibition to be held in London in 1862; and we have read ever since with the greatest interest all that has been published in the *Journal of the Society of Arts* and elsewhere.

Now, regarding the mode of arrangement to be adopted in the forthcoming Exhibition, we cannot conceal from you our disappointment in seeing, in the paper read before the Society of Arts on the 13th March, Professor Ansted advocating a system which, as is well known, entirely failed in the Exhibition at Munich. In coercing the industry of all nations into the framework of a scientific system, Professor Ansted entirely overlooks the essential character of an International Exhibition, viz., internationality and the individuality of the exhibitor, placing supreme over all a most unpopular scientific despotism. Everyone who wishes that undertaking to be successful, can only expect this success from the adoption of the arrangement according to countries; and it is this very arrangement which adapts itself, even for scientific purposes, much better than a mere exhibition arranged according to the different kinds of goods. By exhibiting the products of each country as a whole, and arranging the same one after the other in the respective sub-divisions, the exhibition becomes a large index or repertory, in which not only each particular object may be found much more easily than if it had been, without such distinction, thrown in amongst the large bulk of things, but by the aid of which also the different influences which have been in operation at its production and formation will be much more readily discovered than if objects were presenting themselves divested of all their original relations to the industry and the taste of the country in which they had been produced.

The industry of every country, of every province, forms a whole, an image of active life, representing its development in relation to the arts, a spectacle which must offer the utmost interest to the man of science as well as to the manufacturer and the merchant. This image would be entirely lost if we were to arrange the products in any other way than in arraying in the first line the countries, and in the second the classes; and we think the man of science would particularly feel such a loss.

The motive which is usually brought forward by those who are for the rejection of the arrangement according to countries, viz., the assertion that by a separation of heterogeneous articles, the comparison of the kindred products of different countries would be facilitated, does not hold good for a World's Exhibition. For in the first place it is clear that, even in a strict arrangement according to classes, there will be a lot of very heterogeneous things placed one beside the other, except we would even separate from each other the kindred products of each exhibitor (think only of exhibiting the products of Mr. Minton in the midst of chinaware); in the second place, it must be obvious that—allowing also this further separation—already in consequence of the great mass of objects to be exhibited, many of them will be placed at such a distance that a direct comparison will be equally impossible. But a competent judge will surely be able to discern differences in kindred articles, whether they be placed one beside the other or not, whilst on the other hand, to those who do not discover such differences in objects distant from one another, any juxtaposition will afford but little help. Now, exhibitions are, we think, rather for those who know something about industry than mere amateurs, or even for philosophers who would like to use them for their studies.

Leaving these more especially scientific considerations, there will be others of much greater importance, bearing on the economical side of the question. On this head we venture to say that this Exhibition cannot be carried out at all except each individual country takes care of the objects it is going to exhibit; for exhibitors will never commit their goods into strange hands without receiving a guarantee for their value. The Exhibition Committee, on the other hand, cannot give such security, nor would the respective governments promise any moral guarantee for the goods, unless these should remain under the control of their commissioners. But a commissioner can exercise no control over goods which are dispersed through the whole extent of the Exhibition buildings. Difficult—not to say impossible—as the task of getting the goods in right order might be, we are sure that the returning of them would offer not less inconvenience; indeed, there is the greatest confusion to be anticipated. American goods might go to Russia, German goods to Australia, and so on. It is well known that, to prevent such mistakes, on the occasion of the London Exhibition of 1851, and that of Paris of 1855, commissioners were obliged to enclose each one his own department with a solid fence as soon as they were beginning the packing of the goods.

With what amount of inconvenience the collecting together of the goods is associated under the said circumstances, has been fully shown at Paris, in 1855, where the many annexes did much to increase it; indeed, there was not nearly the same order there as at the London Exhibition of 1851. In the comparatively small Exhibition at Munich, the arrangement according to classes, though not even carried out completely, has given rise to the greatest annoyances; for years the goods were wandering from one wrong place to another, before they came at last into the hands of their true proprietors, and then they arrived mostly in a damaged state, or totally spoiled. A World's Exhibition, strictly carried out after the system of classes, could not fail to discredit Universal Exhibitions for all times coming; and the only measure to be adopted in the direction of an arrangement by classes will consist in this, viz., the separating of machines to be set in motion, as well as of other objects which must be placed separately owing to their bad smell or to their developing noxious gases, and for such like causes. All other objects must necessarily be arranged according to countries, and in the carrying out of this we would only recommend that each country should be bound to take up, as much as possible, the whole breadth of the building, and to adhere to the prescribed order of succession of classes from the right-hand to the left. Then everyone in walking in the direction of the length of the building will be able to trace out the kindred articles, and in walking in the direction of its breadth, to follow after the products of the several countries. Much the same principle was adopted in the arrangement of the Exhibition of 1851, and if this should be carried out more completely, the Exhibition of 1862 will offer all the requisites which, from such a display of industrial products of all nations, can fairly be expected.

As Royal Commissioner for Wurtemberg to the last Exhibitions of London, Paris, and Munich, and in due appreciation of the honour conferred upon me by the Society of Arts electing me for its corresponding honorary member, and of the kindness I received from the part of the Commissioners of the Exhibition of 1851, I considered it right to state to you the views which I and most of my German colleagues entertain about the subject in question. I am, &c.,

STEINBEIL.

CONVERSAZIONI.

The Council have arranged for two Conversazioni during the present Session; the first on Saturday, the 4th of May, at the Society's House, the card for which will admit the Member only; the second on Saturday, the 1st June, at the South Kensington Museum, the card for which will admit the Member and two ladies, or one gentleman.

THIRTEENTH ANNUAL EXHIBITION OF INVENTIONS.

The Exhibition was opened on Monday last, the 1st of April, and will remain open every day until further notice, from 10 a.m. to 4 p.m., and is free to members and their friends. Members by ticket, or by written order, having their signature, may admit any number of persons. Members of Institutions in Union with the Society are admitted on showing their cards of membership.

A sheet of tickets has been issued to every member. Additional tickets may be had on application to the Secretary of the Society.

CENTRAL COMMITTEE OF EDUCATIONAL UNIONS.

This Committee, having been constituted in conformity with the resolutions passed at the preliminary meeting, held at the Society's House on the 8th February (see *Journal*, page 210), held its first meeting on the 22nd ult., the Hon. and Rev. Samuel Best in the chair, when the following resolutions were passed:—

1. That the proceedings of the Provisional Committee be approved, and that the Central Committee of Educational Unions be now established.

2. That the Central Committee being now established those Unions which desire to be admitted by representatives be invited to send in their adhesion as early as possible.

3. That in order to promote uniformity of standard in examination and of value in certificates, all Provincial Educational Unions be requested to send to the Secretary copies of their last examination papers.

4. That when the Central Committee shall have considered the examination papers at present in use in the Local Unions, it shall be their duty to provide a scheme of examinations for common use for the year 1862, and that such scheme shall consist of two sets of papers, one of a lower, the other of a higher, grade, and that both examinations shall be open to persons of both sexes and of all ages.

5. That the Society of Arts having consented to receive the higher certificates as "passes" to their examination (for persons above 16) without the Society's "previous examination," the higher set of papers shall be so framed as to lead to the examinations of the Society of Arts.

6. That the Secretary be instructed to send copies of these resolutions to every Provincial Union, and to request a copy of their examination papers, forms of certificate, and other documents; and that a meeting of the Central Committee be held at 2.30 p.m. on the day preceding the Annual Conference of the Society of Arts.

7. That the following gentlemen, three of whom are to form a quorum, be appointed a sub-committee to make such arrangements as may be necessary to carry out the preceding resolutions, and to prepare for the next meeting:—Hon. and Rev. S. Best, Harry Chester, Esq., the Rev. Samuel Clark, John Slaney Pakington, Esq., and Samuel Redgrave, Esq., with power to add to their number.

8. That the thanks of this meeting be, and are hereby given, to the Hon. and Rev. Samuel Best for his exertions in originating the present movement, and for his able conduct in the chair.

SALE OF CATTLE AND SHEEP IN FRANCE.

The Secretary of the Society of Arts has received a communication from M. Elizée Lefèvre, Director of the *Bergerie Impériale* at Gevrolles, Montigny-sur-Aube, Côte d'Or, announcing that there will be a public sale (by order of the Minister of Agriculture) of cattle of the Mauchamp and Mauchamp-Rambouillet breeds at the Imperial Veterinary College at Alfort, on the 20th instant, and at Gevrolles on the 22nd instant; the latter sale to include sheep of the same breeds. These sheep are of the Merino class, and are from the above-named government establishment.

M. Lefèvre courteously says:—"If any members of the Society of Arts are desirous of attending these sales, I shall be happy to direct their attention to the most remarkable specimens, and shall be glad to make their acquaintance, if they will do me the honour to accept my hospitality." He states that he frequently exports cattle to Australia and the Cape from the establishment over which he presides.

Gevrolles may be reached by railway from Mulhouse, stopping at the Clairvaux station.

SEVENTEENTH ORDINARY MEETING.

Wednesday, April 10, 1861.

The Seventeenth Ordinary Meeting of the One Hundred and Seventh Session was held on Wednesday, the 10th inst., Lord Alfred Churchill, M.P., in the chair.

The following gentlemen were proposed for election as members of the Society:—

Graham, John, M.D. ...	15, Gloucester-road, Regent's-park, N.W.
Harris, Josiah	Ess-hill-house, Newton Abbot, Devon.
Hooton, Jonathan ...	80, Great Ducie-street, Manchester.
Londonderry, Marquis of	37, Grosvenor-square, W.
Lutwidge, Robert Wilfred Skeffington ...	19, Whitehall-place, S.W.
Nugent, E.	Commercial College, Brooklyn, New York, U.S.A.
Salmon, Henry Curwen	36, Lemon-street, Truro.
Sharples, Joseph ...	Hitchin.
Thackrah, James Henry	10, Villiers-street, Halifax.
Wadham, Edward ...	Millwood, Furness Abbey, near Ulverston.
Wield, William ...	Atlas Works, Manchester.
West, J. G.	92 and 93, Fleet-street, E.C.
Whitehead, R. Kay ...	Walshaw-hall, Bury.

The following candidates were balloted for and duly elected members of the Society:—

Blagden, George	5, Duerdin-villas, Tollington-park, N.
Broadwater, Robert ...	3, Billiter-square, City, E.C.
Callow, Thomas.........	8, Park-lane, W.
Coxon, Thos. Cooper...	3 Wharf, City Basin, E.C., and 351, City road, E.C.
Dodsworth, Thomas ...	Clifton, York.
Gilbertson, W.	Laleston House, Bridgend.
Greaves, Richard	The Cliff, Warwick.
Hertz, James	Manchester.
Jackson, Thomas	Railway Station, Milford Haven.
Jones, Daniel Morgan..	1, Amen-corner, Paternoster-row, E.C.
Kennaway, William ...	The Shrubbery, Exeter.
Kisch, Simon Abraham	8, Lancaster-place, E.C.
Lake, James	Newlands, Sittingbourne.
Langton, W. H. Gore, M.P.	Clifton-court, Clifton, Bristol.
Lawn, William S.	Lancashire and Yorkshire Railway, Manchester.
Le Capelain, J.	Wood-lane, Highgate, N.
Miles, Pliny	169, King's-road, Chelsea, S.W.
Ralph, Jno. Rhodes ...	Savile Lodge, Halifax.
Reiss, James	Manchester.
Rendle, Wm. Edgecumbe	Mount View, near Plymouth.
Tootal, Edward	The Weaste, Eccles, near Manchester.
Uzielli, Theodosius ...	Hanover Lodge, Regent's-park, N.W.
Villiers, Rt. Hon. C. Pelham, M.P.	39, Sloane-street, S.W.
Wright, Francis Beresford	Osmaston Manor, Derby, and 21, Dover-street, W.
Wright, F., Junr.	" " "

The following Institution has been taken into Union since the last announcement:—

Halifax, Harrison-road Young Men's Society.

The Paper read was—

ON TASMANIA, ITS CHARACTER, PRODUCTS, AND RESOURCES.

By Joseph Milligan, F.L.S., F.G.S., &c.

Tasmania, a large and populous island, equally remarkable for the fertility of its soil, the picturesque beauty of its surface, and the salubrity of its climate, lies off the extreme south end of Australia, and is distant from it at the nearest point about 130 British statute miles. It is situated between 40 deg. 40 min. and 43 deg. 38 min. of south latitude, and between 144 deg. 33 min. and 148 deg. 20 min. of east longitude, and contains 14,482,892 acres. Its extreme length, from north to south, is upwards of 170 miles, and from east to west nearly 200 miles.

For the purposes of trade and commerce its position is most favourable; it is easy of access from the Western World, being but a little to the north of the parallel of latitude in which navigators prefer to run down their easting after passing the Cape of Good Hope, and having in its immediate vicinity several rich and populous British settlements. The entrance to Port Dalrymple on the northern side of Tasmania, is only one day's journey of a steam-vessel from Melbourne, the capital of Victoria, two days' journey by steamer from Sydney, and, of course, within a few days' travel of a steamer from New Zealand, Queen's Land, and South Australia. Hobart Town, the metropolis of the colony, being at the south end of the island, upon the broad estuary of the river Derwent is necessarily half a day's travel by steam more distant from the places named, New Zealand excepted. Tasmania was discovered in 1642, on the first day of December, a circumstance which led to the selection of that day upon which to hold the annual regattas established by the excellent Sir John Franklin, when Governor of the colony. The discoverer was Abel Jansen Tasman, who had been dispatched from Batavia, by Anthony Van Diemen, then Governor-General of the Dutch possessions in the East Indies, in command of an expedition for the purpose of exploring the "Great South Land." In compliment to his patron and superior in command, the name Van Diemen's Land was given to the new discovery by Tasman, a name which it retained for nearly two centuries, and which has only been completely and legally replaced by the more euphonious and legitimate one of Tasmania, within a comparatively short period.

In 1772, Captain Marion, from the Mauritius, touched here, when a collision between some of his crew and the aborigines occurred, in which one or more of the latter perished from the use of fire-arms.

In 1773, Captain Furneaux, of the ship *Adventure*, consort to the *Resolution*, and both under the command of Captain Cook, upon his second voyage round the world, having in a fog, off St. Paul's, parted company with his commander, proceeded on his way, made the south end of Tasmania, and anchored in a bay which still bears the name of his vessel, while Captain Cook pushed on to New Zealand. On his third voyage, Captain Cook touched at Adventure Bay, where he left some live stock ashore, which was no doubt destroyed by the natives.

In 1792, Admiral Bruni D'Entrecasteaux, in the *Recherche*, accompanied by Capt. Huon Kermandee, in the *Esperance*, touched here in the course of their voyage in search of La Perouse. The illustrious naturalist La Billardière formed one of this expedition; he was the only officer who returned alive to France, where he published a most interesting narrative of the voyage, in which was contained an account of the fauna and flora of Tasmania, so far as they fell under his observation. The names Recherche Bay, Huon River, Esperance Bay, Kermandee Rivulet, D'Entrecasteaux Channel, Bruni Island, &c., live to commemorate the visit of these Frenchmen.

In the year 1798 Mr. Bass, proceeding in a whale-boat, skirted and examined the south-east coast of Australia, from Sydney to Western Port, and was led to the belief that the sea in which he sailed was a strait. Towards the close of the same year, he, in company with Lieut. Flinders, passed through the strait in a 25-ton sloop, visited some of the islands there, called at the mouth of the Tamar River, Port Dalrymple, and at Circular Head, &c., on the north coast of Tasmania, and finally, after circumnavigating the western and southern coast, and giving names to many islands, headlands, &c., ran into the river Derwent. Bass Strait, thus established to exist between Australia and Tasmania, most appropriately bears the name of the able and adventurous discoverer.

Physical Geography.—The aspect which Tasmania presents to a stranger approaching the shores is that of a hilly and mountainous country, for the most part wooded, bold, and picturesque. The same impression is produced whether it is seen from the north, east, west, or south, but the ranges of mountains along the western coast are by far the loftiest, the most massive and continuous, and the wildest and most striking in outline. Nor is this impression deceptive, for such the character of the island is found to be upon actual examination of, and intimate acquaintance with, its interior.

The largest continuous area of nearly level or but slightly undulating land in Tasmania is on the northern slope of the central valley, upon the eastern side of the elevated plateau of Greenstone, which occupies the middle of the island. This beautiful valley is as sparsely dotted with trees as a gentleman's park in England, and is everywhere clothed with grass. It consists of a continued series of nearly level plains, diversified with rounded elevations of the softest and most fascinating rise and fall; the graceful ease of its undulations appear to be in part due to the crumbling and perishable nature of a porous and vescicular basalt, prevalent over its surface, and in part to the slow character of the recession of the waters which seem to have occupied its site from N. to S. at no very remote geological epoch. Upwards of three-quarters of a million of acres are included within its limits, which extend from the Ben Lomond range of mountains on the east, to Quamby Bluff and the Western tiers on the western side, and from Tunbridge on the south to Perth and Evandale on the north. The upper or southern portion of this valley exhibits various dried-up basins of saliferous lagoons, on the site of which, at certain seasons, a considerable incrustation of common salt may still be obtained. It is well known that in the time of the early settlers, supplies of this useful article were obtained by them from time to time from this source. Changes of surface result from repeated bush fires, devastating and clearing the surface of the country, and from the close and incessant depasturing by sheep, which has the effect not merely of shortening the grass and herbage, but of removing it almost entirely, so as to expose the unshaded surface of the soil to the direct vaporising influence of the sun's rays, where it was originally protected by occasional underwood, and by a thick covering of long grass, greatly modifying radiation and obstructing evaporation. This is a remarkable instance of the ease and rapidity with which considerable physical changes of the surface and aspect of large tracts of country are brought about.

The lower or northern portion of the valley is more or less thickly covered with beds of fine diluvial gravel, derived from the disintegration and detrition of granite, syenite, and trap rocks, of Silurian slates, of carboniferous limestone, and of coal-beds and shales, and of their superincumbent sandstones, everywhere recognisable by the large amount of opalised wood found therein. Fragments of all these formations, and of fossils belonging to the various strata, are found abundantly in this drift, derived from the disruption of the geological beds, still traceable under the western mountains, and developed over a wide extent of country to the eastward of Ben Lomond, and in the various valleys watered by the upper affluents of the South Esk river, which, with its important tributaries, the Macquarie River, the Elizabeth River, the Lake River, and the Meander, finds a devious way through the length and breadth of the valley, till its waters are merged with those of the North Esk in the Tamar River at Launceston.

There are many valleys equally captivating to the eye of taste, and quite as valuable for the purposes of the stockholder and the agriculturist, but none other at the same time so extensive, so productive, and so accessible by good roads and bridges. The plains at Oatlands and on the Upper Jordan afford valuable pasturage; the eastern and western marshes, now converted into flourishing agricultural farms, bear the heaviest of crops, and yield the richest and most succulent natural pasturage; the plains at Brighton and Bagdad, and at Richmond, Pittwater, and Sorell, on the south side, are famous for dairy farms and for abundant corn crops; and the Lawrenny plains, at the junction of the Clyde river with the Derwent, near Hamilton, stand unrivalled for soft beauty of surface and luxuriant pastures: but there is no other tract of country in the island possessing these qualifications which at all approaches the valley of the South Esk in extent and importance.

The district stretching from the Lake river to the Meander, through Norfolk Plains, Westbury, and Deloraine, on the western side of this valley, may be looked upon at present as the granary of the colony. There fields of wheat, oats, barley, turnips, potatoes, hay crops, and other products which characterise English farms, are now found in close series over a large surface of country, where a few years ago there stood heavily-timbered forests.

It has been remarked, and with reason, that the richest soils in Tasmania usually sustain forest trees of the largest dimensions. It has also been observed that where the trees are all, or nearly all, of very large size, they stand further apart, and are, of course, less numerous on a given surface.

In the best pastoral districts the trees are, as I have said, dotted as sparsely and often in groups quite as picturesque as over a nobleman's old domain in England.

In the best agricultural soils the reverse is the case. On the banks of the Huon river, in the south, for instance, on the lands bordering the Rubicon, the Mersey, the Forth, and the Leven rivers, and at Emu Bay and Circular Head on the north, the land is not only clothed with gigantic trees, but there is a densely tangled underwood filling up the intervals. Still, from the very commencement of the colony to the present time, the work of clearing and cropping the land has gone hand in hand with the culture of live stock.

The first notice which I find of wheat grown in Tasmania is in 1807, when the infant settlement had suffered more or less from scarcity of provisions for a period extending into three years. Military sentinels were then placed upon the wheat fields by government for their protection.

In 1811, there were 1,500 acres in wheat in the colony. In 1821, the land in cultivation amounted to 14,940 acres. In 1841, the cultivated land amounted to 132,614 acres. In 1851, 151,846 acres. In 1859, last return available, it is stated at 208,619 acres, and that the area of land brought into cultivation during the year amounted to 7203½ acres.

Occupying the larger portion of the very centre of the island of Tasmania, is a huge plateau of greenstone, having an elevation above the sea of 3,000 to 4,000 feet, and comprising within its limits a series of lakes and lakelets, which vary from the size of a mere pond to that of the Great Lake, which is possessed of an area of 80 square miles, and a depth from a few feet to many fathoms, as is the case of Lake St. Clair, from which the noble Derwent takes its rise. Situated upon and within a large field of eruptive rock, these lakes have by some been regarded, rather hastily perhaps, as the sites of the craters of extinct volcanoes.

The great elevation of this extensive table land, and the proximity of the high mountains on its western margin to the west coast of the island, secure for the district a greater abundance of rain in the course of the year than falls to the share of the lower districts on the eastern and south-eastern sides; and coupled with this humidity there is a cooler average temperature: from which conditions there accrues a most ample supply of verdant pasturage at seasons when, on account of continued sunshine and drought, it is very scarce upon the low-lying sheep-runs to the eastward. Hence has arisen the practice amongst flock-owners, of holding stations both on the lower and higher lands, the former for winter, and the latter for summer pasturage, a custom which has added vastly to the capabilities of the colony for depasturing sheep. The experience of some years has, notwithstanding that snow storms and frosts are not unfrequent during the winter in these high regions, taught those in charge of sheep there, that their flocks may upon most parts of even this elevated table land be depastured during the winter season of ordinary years, and accordingly this practice has of late obtained; and summer runs have been sought upon the coarse marshy plains still further to the westward and southward.

Thousands on thousands of sheep are depastured over this high table-land, but its remoteness and the rough condition of the roads, preclude the exercise of any other branch of rural industry there. It furnishes to the low country on its eastern side a number of sparkling rills and rivulets, but no considerable river; on the southern side there issues from Lake St. Clair the already ample stream of the Derwent, whose waters acquire additional volume by the influx of the Dee from Lake Echo, the Shannon from the great Lake, and the Clyde from Lake Sorell; while on the northern aspect it gives rise to the Mersey, and the Forth, both large rivers.

The face of the country to the north-west, west, and south-west of the table land is generally densely clothed with large umbrageous timber trees and thick underwood, growing upon soil of almost every conceivable variety of composition and quality. There extends along a great part of the western side of the island, at inconsiderable and irregular distances from the coast, a chain of high hills, formed of an old red conglomerate, dipping westerly. These conglomerate ranges attain an altitude of 3,000 to more than 4,000 feet, and, standing as they do in the path of the water-laden clouds drifted over from the Indian ocean by the prevailing westerly winds, attract and receive their discharged contents in the shape of frequent and continued heavy rains, leaving a smaller supply for the table land in the centre, and still less for the low eastern pastoral and agricultural lands to which a certain contingent is all important.

In the dense dark forests to the westward, the humidity is at all times great. There is little or no evaporation in such forests, as the rays of the sun never penetrate to the ground, and the umbrageous foliage overhead forms a canopy which is well-calculated to prevent evaporation, as it certainly does the radiation of heat. The temperature in the deep recesses of these dense and dark forests, varies but little usually from that of the mean annual heat of the place, for not only are the rays of the sun excluded for the most part, but the winds find no admittance, and except at some open glade, an explorer finds it difficult to decide whether there exists any breeze, and can only judge by watching the motions of the topmost sprays upon the tallest trees.

From Cape Grim, the extreme north-west point, to Port Davey and the extreme south-west cape, the country is traversed in every direction with rivers, rivulets, and rills of water. The lowlands along the eastern side of the island are, on the other hand, at certain seasons somewhat deficient of this essential element of fertility, and as it has been proved that land laid down with artificial grasses and properly irrigated will maintain eight large sheep to the acre the year round, and yield agricultural crops in proportion when so treated, a desire has arisen on the part of the colonists to see a comprehensive and systematic scheme of irrigation carried out by government, taking as a basis the utilisation of the vast stores of water contained in the lakes with which the table-land is studded. Of the practicability of this scheme, I do not profess myself competent to form an opinion of any practical valué, but this may safely be affirmed, that if it could be accomplished it would make the lands so operated upon ten times more productive and valuable than they are at present, both as respects their agricultural and sheep-feeding capabilities. The average annual fall of rain at Hobart Town, and over the comparatively low lands on the eastern side of Tasmania, is about 21 inches, while the yearly rain-fall throughout the dense forests along the north-western and western side of the island varies to upwards of 50 inches in the twelve months.

It is obvious that a country the surface of which undulates much, will require more rain than a country the face of which is level, and that hilly land requires more frequent rains than flat ground, on account of the tendency to run off rapidly, and to pass away in particular channels in the case of a much inclined surface. It is also obvious that more frequent rains must be requisite to preserve a country in a state of fertility which enjoys a large share of sunshine the year round, as compared with that necessary to a country where a large proportion of the days in the year are cloudy. It would follow that Tasmania ought to have more rain than England, and that the western side of Tasmania ought, *cœteris paribus*, to yield heavier crops, and generally to be more productive than the eastern districts of the island,—a conclusion which remains to be proved, as the western country continues yet unoccupied, if exception be made of the Van Dieman's Land Company's settlements, at Circular Head and Emu Bay, where, however, crops are obtained sufficiently heavy fully to justify the expectation that the western and yet unoccupied districts of Tasmania must ultimately become the most productive and valuable—in fine, the granary of the island.

It must, however, be confessed that much of the land on the western side is too hilly and too highly inclined to be applied to agriculture, and that there are also there extensive tracts, the soil of which must for a long period preclude their application to farming purposes. At the same time it is to be remembered that the climate along the western side of the island is of the most favourable character for ensuring to farming operations the very highest results. At Hobart Town, and along the low eastern districts, the mean annual temperature is 53 deg., and the atmosphere at all seasons rather arid, the yearly rainfall being 21 inches; whereas, on the western side, at low levels, the temperature is quite as warm, and as the rain-fall is double, or more, the aridity peculiar to the eastern side, and to Australia generally, is unfelt, and there is in place of it a balmy softness, most conducive both to animal and vegetable life.

The prevailing form of surface rock throughout the island is some form of trap greenstone or basalt. On decomposing it forms a rich chocolate-coloured mould, or heavy hazel loam, admirably adapted for wheat crops. It forms the superficial rock upon which many of the finest sheep-runs in the colony are situated. Greenstone forms the boldest headlands around the seaboard of Tasmania, as Circular Head and Table Cape, in Bass Strait, and the South-East Cape, Fluted Cape, and Cape Pillar, at the south end of the island. It constitutes, also, the culminating point of many of the highest mountains in the island: for instance, Mount Wellington, 4,240 feet, Ben Lomond, 5,000 feet; Dry's Bluff, 3,500 feet; Black Bluff, 4,000 feet; St. Paul's Dome, 2,500 feet, &c.

Granite shows out round the southern flank of Ben Lomond and St. Paul's Dome, and along the east coast from Schouten Island to Cape Portland; it also crops out near the Eldon range, and to a large extent at the Hampshire hills in the west and N.W. It rarely attains an altitude of more than 2,000 feet. The soil formed over it is usually a cold ungenerous clay, supporting a very thin covering of pasture grass. Slate rocks, belonging to the auriferous series, present their vertical edges over an extensive district, stretching from Fingal and Falmouth with but little interruption to the N.E. point of the island, and in an easterly and westerly direction from Eddystone Point to the River Tamar at Mount Direction. Slates of probably the same age, occur on the Meander river, on the Inglis river, and on the Hellyer river, and at the Sisters and Cape Grim, &c., on the north coast. This slate forms on decomposition, a barren white soil of clay and sand. In the district of Macquarie Harbour and Port Davey, there is an extensive tract of country over which a highly silicious slate prevails, yielding by decomposition a soil of peat and sand, which, without drainage and lime, is almost worthless.

Coal, sandstones, and their associated schists prevail in many localities, but being usually capped with greenstone, we see little of the cold gray spewy soil characteristic of them in the coal districts of Great Britain. The carboniferous limestone and associated beds of clay, crop out at various points along sundry meridional lines, and contribute to form a tolerable soil. An older fossiliferous limestone is disclosed in great force along the Gordon and Franklin rivers at Macquarie Harbour, and is also met with in the King river. In these positions accessible to boats and small craft, limestone will prove of the utmost value when the district comes to be occupied by settlers.

On the eastern margin of the Bay at Macquarrie Harbour are tertiary cliffs of incoherent sandstone, containing beds of jetty lignite and nodules of fossil resin, &c.

The chief of the mountain chains as well as the ranges of hills of secondary importance in Tasmania have a line of direction nearly meridional. The principal valleys and the rivers which flow through them follow the same law. The estuaries of the largest rivers open on the north and south coasts, and afford the safest and most convenient harbours for shipping. Hobart Town Harbour, situated within the estuary of the Derwent river, and at the very foot of Mount Wellington, is there three miles in width, of great depth, and perfectly land-locked; it is easy of access, and one of the most safe, capacious, and convenient of anchorages in the world. The Derwent river runs nearly north and south, and its estuary opens on the south coast. The Huon river has a course nearly north and south, and opens into D'Entrecasteaux Channel on the south, where it affords good anchorage, and is now a port of entry, &c., and a place of considerable business, being one of the principal seats of the timber trade in Tasmania.

Port Esperance and South Port are also at the south end of the island, as is Port Davey at the south-west extreme of the colony. At the northern end of the island is Bass' Strait, the Tamar, the Rubicon, the Mersey, the Inglis, &c., &c., all rivers navigable to distances varying from 40 miles to one or two, flowing from south to north. On the east coast of Tasmania there are no rivers of any considerable size or importance, although there are safe anchorages at Spring Bay, and the Bay of Fires. On the west coast the Gordon, the Franklin, and the King rivers discharge their waters into the capacious estuary there, the direction of the Gordon and Franklin being north-west and south-east through a great part of their course. The Arthur runs also in a direction nearly north-west and south-east and is a considerable river, but not navigable. The Pieman river also opens on the west coast, and has a considerable estuary, but cannot be entered on account of a bar at its mouth.

The principal harbours of Tasmania are therefore situated at the north and south sides of the island, those at the south side being the deepest, most capacious, and most accessible. The climate of Tasmania has been compared to that of the South-west of England, with this important difference in its favour, that it is milder during the winter, and that the atmosphere is generally clearer and drier—conditions highly conducive to health, and very congenial to the feelings of natives of the British Islands.

The mean annual temperature, as deduced from 14 years' observations, taken at H.M. Observatory, at Hobart Town, is 53°. The highest temperature registered during this period is 105°—the mean daily range of the thermometer on the 14 years, is 60° 65, and the yearly fall of rain, as already stated, is about 21 inches. Thunder storms are neither so frequent nor so severe as in the British Isles. Snow rarely falls, except on the high table-land, and upon the mountain ranges. Continued frosts are unknown in Tasmania; the frost of the evening and night, when it does occur, invariably yielding to the balmy influence of a bright warm sun upon the following day. The hot, close, sultry, and oppressive weather, understood by the significant term "Muggy," so frequently occurring toward the close of an English summer, is rarely experienced even for a day in Tasmania, and a sultry night is almost unknown there. It may be broadly stated that, however hot the weather may be during the day in Tasmania, the evening and night which succeed are cool and invigorating, so that relaxation from a continuance of warm weather never occurs. The fine open weather which characterises the winter of Tasmania offers to the agriculturist those facilities for prosecuting the labours of his farm which he would in vain expect to find in any other part of the world.

The process of haymaking, which in the British islands is so hazardous, from the showery nature of the weather at that season, is in Tasmania accompanied with no risk or anxiety whatever, unless it be to see that the exsiccation is not carried too far under the united influence of a clear sky, a bright sun, and a dry atmosphere. Wheat harvest is conducted under the same benign influences, and with the same total absence of all feeling of uneasiness on the score of weather.

The conditions of Tasmanian climate are therefore not only admirably suited to the constitution and habits of an Englishman, but they are better adapted for the furtherance of his views and objects as an emigrant and farmer than those of any other possession or territory under the British crown. Looking to the superior advantages which Tasmania offers to the British settler, there is one of no small moment to his peace, comfort, and prosperity, namely, the total absence of danger and insecurity from the presence of aboriginal inhabitants.

Aborigines.

It will scarcely be expected that much should be said in this paper about a race now nearly (and to all practical intent actually) extinct. They probably belonged to the Oceanic negro or Papuan race, but how or when separated so far from their kindred is a problem which remains to be solved. The notices of them recorded by the early navigators are few and meagre. It is known that at the time of the occupation of the island by British subjects, in 1803, there were a certain number of tribes belonging respectively to well-defined districts in the island, and the numerical strength of each tribe may be inferred with tolerable exactitude, from the accounts handed down by early settlers of the force which they have seen mustered in particular districts on great occasions. These data, modified by considerations as to the means of sustenance originally afforded by particular districts, lead to the conclusion that the whole aboriginal population of the island never much exceeded 2,000 in number. In their wild state they wore no clothing of any kind, and had no permanent abode; a few sheets of bark laid against the limb of a fallen tree was their substitute for a house. The men besmeared their heads and bodies with the fat of the wombat and red ochre, and their frizzled hair, which was never cut, hung in matted corkscrews round the head like a reddened mop. The women wore no hair, but kept their heads close shaved, a process which they performed by means of sharp-edged flints. Both sexes cut and raised scars upon their limbs and bodies in compliance with established custom, and in accordance with certain symmetrical patterns fashionable amongst them. The tribes were always at war with one or other of their neighbours, from whom the men obtained their wives by force when negotiation and furtive attempts failed, having a strong prejudice against intermarrying in their own tribe or family circle as it were. They were monogamists, but not remarkable for continence. Anthropophagism was never practised by the aborigines of Tasmania. They lived entirely by the chase; for the roots, fungi, core of fern-tree, tubers of orchids, sea-weed, and fruits, &c., which they did eat from time to time, formed together but a slender item in their ordinary bill of fare. They invariably cooked their game, whether large or small, in the skin; a practice which preserved to the meat its full flavour and all its natural juices. The only arts which they knew or practised, were those of the preparation by the men of spears and waddies for the purposes of war and for hunting, and the construction of bark canoes with high stem and stern (as represented in La Billardière's work), in which to pass to the islands adjacent to the main land of Tasmania; but the women made baskets in which to carry their flints, cray-fish, and other small game, and manufactured glittering necklaces of shells wherewith to adorn themselves and their lords. The first serious collision between the aborigines and the settlers, is recorded as having taken place on the 3rd May, 1804, when 50 of them are said to have fallen. From that time to 1835, when the remnant were taken under the immediate care of government to an establishment prepared for them; the deaths from hostilities between the tribes, from fire-arms in the hands of convicts, and the ruder sort of settlers, and from disease, &c., must have been enormous, as only 210 were found for adoption by government at that date. It is upwards of 25 years since the government removed the then residue of the aboriginal population to an establishment provided for their maintenance and comfort; a remnant of 10 or 12 only remained alive at the close of 1859. It is satisfactory to know that it has been the pride as well as pleasure of each successive ruler of Tasmania to protect its aboriginal inhabitants, and, as far as practicable, to meliorate their condition and minister to their comfort.

History.

Tasmania was first occupied as a British settlement in August 1803, by a party of soldiers and prisoners under Lieut. Bowen, dispatched from Sydney for the purpose. Rest-down, or Risdon, on the east bank of the River Derwent, a few miles above Hobart Town, was selected as a site.

In February, 1804, Col. Collins arrived with an accession of marines and prisoners from Port Philip, which, after a short trial, was pronounced unsuitable for settlement and accordingly abandoned. It is not a little remarkable, that in an order of the day, dated 31st December 1803, Col. Collins should have made use of these words: "In this the whole are concerned, since the sooner we are enabled to leave this unpromising and unproductive country, the sooner shall we be able to reap the advantages and enjoy the comforts of a more fertile spot." Col. Collins removed the head-quarters of the settlement to Sullivan's Cove, the present site of Hobart Town. In 1805-6-7, a great scarcity of provisions existed, and the price of wheat was fixed so as not to exceed £4 per bushel (£32 per quarter). Sentinels were placed over the wheat fields. In 1810 the settlers on Norfolk Island were removed to Van Diemen's Land, where they obtained grants of land. Col. Collins died on the 24th March, 1810. The administration of the government, continued in succession in the hands of three officers in command of troops in the colony.

In 1813, Colonel Davy arrived as Lieutenant-Governor. In 1814 wheat was 10s. per bushel. In 1816 the population was 1,461. In September of that year, the first emigrant ship reached the colony; and in that year a Post-office was established. In 1814, General Macquarie, Governor-in-Chief, with his lady, paid a visit to Van Diemen's Land, and there is a tradition afloat, that Mrs. Macquarie crossed the then wild country from Hobart Town to Launceston, in the only available vehicle, a bullock cart, and that she was greatly scandalized at the unhandsome terms in which her coach driver addressed his cattle.

In 1817 Col. Sorell arrived and assumed the Government. Wheat was exported to Sydney this year to the amount of 20,000 bushels. In 1824 Col. (afterwards Sir George) Arthur arrived as Lieutenant-Governor. In November 1825, General Darling, then Governor-in-Chief, brought to Hobart Town a proclamation declaring Van Dieman's Land independent of the government of New South Wales. In 1826, bushranging, which had assumed the formidable dimensions and character of regular mounted banditti, was effectually and permanently put down.

Colonel Arthur, after 12 years of anxious and energetic exercise of the functions of governor, left the colony on October 30th 1835. He was succeeded by Sir John Franklin, who arrived on 6th January 1836—Colonel Snodgrass having administered the government in the interim. The personal good qualities and simple manners of Sir John procured for him general respect, and the generous munificence of himself and Lady Franklin are still held in warm remembrance in the colony. At considerable cost Lady Franklin raised, and endowed with a gift of land to be converted into an arboretum, a building with Grecian pente-style front for the purposes of a public museum in the suburbs of Hobart Town; and it is known that in the course of one summer she disbursed the sum of £600 as payment for the destruction of venomous snakes which had previously shown themselves in great numbers in the settled districts.

Sir John Franklin first admitted the presence of the reporters for the daily press during the proceedings of the Legislative Council.

In 1834, the Messrs. Henty, of Launceston, had initiated the colonisation of Port Philip, since styled Victoria, by sending to Portland Bay and Port Fairy, a large number of breeding ewes. The shores of Hobson's Bay and the banks of the Yarra Yarra were occupied the following year by flocks introduced by Messrs. Bateman, and Co., Mr. Falkiner, and others, from Hobart Town and Launceston. During 1836-7-8, the exodus of settlers and live stock flowed from Tasmania in a continuous stream to Australia Felix; and at the present time some of the most extensive and valuable sheep-stations there are held by Tasmanian settlers. To the enterprise, intelligence, and active industry of the occupants of Tasmania, is therefore due the development of the vast resources of the far-famed gold colony of Victoria.

In August, 1843, Sir John Franklin was relieved of his government by the arrival of Sir J. E. Eardley Wilmot, whose administration of the affairs of the colony lasted till 24th September, 1846, when a despatch from the Secretary of State informed him that he had been superseded. Mr. La Trobe, then Superintendent, and afterwards Governor of Victoria, held the reins of government in Tasmania till the arrival of Lieut.-Governor Sir Wm. Denison, on the 26th January, 1847. The able, vigorous, and impartial conduct of the public affairs of the colony by Sir William, during a period of time agitated by the vital question of the continuance of transportation of convicts to the island by the British Government, procured for him many warm supporters and some bitter opponents.

Constitution.

The Australian Colonies Act of August, 1850, which was brought into operation in Tasmania, conferred on the colony the first instalment of representative government. The Council so appointed consisted of twenty-four members, sixteen elected, and eight nominated by the Crown. This transition Council digested and arranged the terms of the Constitution Act, which, having been submitted to the Imperial Parliament, and obtained its sanction, is now the law under which the government of the colony is conducted; it came into effect in the island in 1856. It provided for legislation by two Houses of Parliament and a Governor, who has power to give or withhold, at his pleasure, the royal assent to acts passed by them. The Upper House is constituted of 15 members (who must be of the full age of thirty years), elected by persons possessed of a freehold of the value of £50 a-year rental, and by persons who have passed degrees in medicine, &c., from British Universities; five members to retire annually. The Lower House consists of thirty members, elected for five years, by persons having a suffrage of a £10 yearly rental, or a freehold of £100 value. The elections are all conducted by ballot. It was reserved for Sir Henry Young, the successor of Sir W. Denison, to initiate this representative and responsible system of government, and it is satisfactory to be enabled to say of it, that hitherto it has been found to work harmoniously, and, upon the whole, beneficially for the country.

Convict Question.

The great question of the abolition or continuance of transportation, which so long agitated the Australian colonies, and which was perhaps finally disposed of, so far as Van Dieman's Land was concerned, by the fortuitous circumstances of the discovery of gold in unprecedentedly large quantities in the neighbouring colony of Victoria, has never, it appears to me, been fairly considered upon its merits. The inhabitants of the Australian colonies regarded the subject from their own point of view; they were a party concerned, and could not be expected to express themselves in favour of transportation as a secondary punishment in the abstract, while they themselves were waging war to the knife in order to be freed from its practical operation. Arguing the question of transportation as a secondary punishment, as tried by its results, I am inclined to pronounce it a great success. The British government has conducted an experiment of stupendous magnitude, spread over a long period of time, at an expense which would have deterred any other nation from prosecuting it even if commenced.

In round numbers 100,000 criminals have, during a period of about 70 years, been conveyed to the various Australian settlements. Assuming that one-half per cent. of the whole number, an assumption probably much beyond the truth, have been taken off by capital punishment, and that an equal number of irreclaimable ruffians remain under restraint, then 99 per cent. of the whole must have merged in the mass of the Australian population, and whether morally reformed or not, they have at least become safe members of society, and peaceful, orderly, and industrious citizens. The result is too great and startling to have been anticipated, but having been realised, it is but just to give it its due weight in the consideration of a question of such gravity. It is not intended to assert that all the details in the course of this unparalleled experiment have been perfect in conception and carried out with scrupulous precision; the grand result has alone to be looked at, and no one regarding it with an unprejudiced eye can by possibility arrive at any other conclusion than this, that a vast, costly and momentous experiment in the interests of humanity and civilisation has terminated in a result more successful and satisfactory than the most ardent philanthropist would have dared to hope for. Experience of the working of the convict system formerly in operation in the Australias enables me to comprise in a few brief observations the treatment most productive of good in respect of the criminals; and as the improvement of such a class in any community must be identified with the welfare of the community itself, the effect upon the interests of the colony in this case does not require to be separately considered. There is a condition of things which may be artificially produced in a new country analogous to that which superabundant population causes in old communities. This condition is reached by glutting the market with forced labour, so that its value falls to a point at which the criminal is tempted to think it more his interest to make money by vicious practices than by the exercise of honest industry, a state of things of chronic continuance in old densely-peopled countries. Like conditions will produce like results. If a convict is thrown back into the community from which he came—forced within the sphere and influence of old associates in crime—his wants the same as before, and his ability to satisfy them diminished, he inevitably becomes again a criminal. Remove him from old associates, and relieve him from the pressing wants which made him infringe the laws, and his tendency to misconduct is reduced to a minimum. Transport the offender to a new country, where labour is in demand and well remunerated, where there are numerous avenues open through which any one may, by honest industry, prudence, and perseverance, rise to competence, if not wealth, and to consideration, measured rather by the standard of present than of bygone conduct, and at once a new spirit is infused into the man, and a new vista of life presented to appetites sharpened by disappointment and the hard, heavy hand of stern necessity. Placed thus he is in the position which the majority of the 100,000 already quoted have severally occupied; and, as like causes produce like effects, he may, like them, become an orderly, industrious, and respectable citizen. There is at the same time a limit beyond which it would not be either desirable or safe, even in a new country, and under the best devised regulations, greatly to increase the proportion of convicts; a limit which, as already indicated, is reached whenever the wages of labour fall so low that the quondam criminal may once again be tempted to think it easier for him to make a livelihood by nefarious means than by honest industry, a limit which, probably, had been attained in Van Diemen's Land some time before the gold diggings of Victoria were developed, when the discontinuance of transportation, from being a question of state policy became in the nature of things a necessity.

The high premium offered for labour at Victoria during the first days of the gold diggings produced a convulsion in the labour market of Tasmania, from which it has scarcely yet recovered. The dazzling prizes which from time to time fell to the share of lucky adventurers, stimulated the working population to a general exodus, and thousands upon thousands left the island to try their fortune in Victoria. Happily for Tasmania, the worst characters amongst the labouring classes were the very first to move off, and but few of this description have returned. Many hard-working, honest men did return with heavy gains, which not a few were wise enough to invest in the purchase of land, or live stock, on leased farms. Agricultural operations were for a time all but suspended, and farmers generally suffered great inconvenience and loss, for which, however, they were amply compensated by the fabulously high prices which they afterwards obtained for their produce. The high price of land, high rents, high prices of live stock, agricultural produce, and of other commodities, have greatly fallen since the palmy days of the gold diggings, but the wages of labour have scarcely fallen in proportion. The explanation is probably this—the accumulation of capital by the working classes has been, and still is, so rapid, that they are converted, with expedition scarcely conceivable, from the condition of servants and labourers into that of employers, thus creating a new demand for labour, and contributing by their change of position to sustain rates of wages which it has become their interest to see depressed. The following are the rates of wages prevailing throughout Tasmania in 1860:—

Wages.

			Per Day.
For common labourers, without maintenance,			4s. 0d. to 6s.
,, bricklayers	,,	,,	8s. 0d. ,, 12s.
,, carpenters and joiners	,,	,,	8s. 0d. ,, 11s.
,, masons builders	,,	,,	7s. 9d. ,, 12s.
,, ,, stone-cutters	,,	,,	7s. 6d. ,, 12s.
,, plasterers	,,	,,	7s. 0d. ,, 12s.
,, plumbers ,,	,,	,,	7s. 6d. ,, 14s.
,, quarryman ,,	,,	,,	6s. 0d. ,, 9s.
Yearly domestic servants obtained, with lodging and maintenance			£30 to £40.
,, farm servants	,,	,,	ditto.
,, shepherds	,,	,,	£30 to £45.
,, grooms	,,	,,	£30 to £40.
,, female servants of all-work		,,	£20 to £25.
,, laundry-maids	,,	,,	ditto.
,, cooks	,,	,,	£25 to £40.

During the time when the highest prices prevailed in the colony, domestic servants, man and wife together, obtained £60 to £80 a-year, with board and lodging. The sawyers and wood-cutters in the Huon district were, at the same time, earning from £10 to 12 per week. Men with fixed moderate incomes felt severely the pressure, and even the Government felt constrained to add nearly 50 per cent. to the salaries of its *employés*, an increase which has since been withdrawn. The rents of houses in Hobart Town, which, in 1851, previous to the gold diggings, had let for £75 and £100, rose soon after to £150 and £250, but have since receded with the times, and now let respectively at about £90 and £120; still exhibiting an advance upon the rates of 1851.

The first effect of the gold diggings being the withdrawal of the greater number of the working men from their ordinary avocations, a temporary paralysis was produced in every branch of industry and enterprise. Farming operations were narrowed and impeded; contractors for public works were unable to meet their engagements, and all such undertakings were suspended; incipient manufacturing establishments were entirely given up, and long established branches of trade, such as the whale fisheries, were practically abandoned for the time. There was a pause, a cessation of the bustle and activity characterising new communities, but there was no collapse; industry and capital in its train had suddenly found new and profitable channels for their investment, and every one was eager, excited, and expectant. The influx into Victoria of a teeming population of thousands per day, with every want to be supplied, created a demand for houses, provisions, and goods of every description, which speedily cleared off, at enormously high prices, the old stocks of goods on the hands of Tasmanian merchants, and gold was bought in return at a rate which left a large profit to the speculator. Money, too, that is the circulating medium, became scarce, and again Tasmania stepped in, and her bank-note, transferred to banks in Victoria, and stamped by them as payable at their counting houses, were improvised as a local currency. But the spirit of speculation engendered by the gambling nature of gold digging operations at length spread from Victoria to Tasmania, and precipitate and hazardous speculations taking the place of sound enterprise, much of the capital which had been realized so unexpectedly, and in so brief a time, was again clutched from the hands into which it had fallen. A reaction ensued, the effect of which is, at this time, severely felt in all the Australian colonies.

The industry and capital of Tasmania have, almost from the very outset of the colony, been directed in the main to the production of three great staple articles of trade—wool, oil, and wheat. With the culture of these some collateral products, such as live stock and various sorts of agricultural produce, and some new objects of industry, have grown into importance; for instance, the preparation of timber and the growth of fruit for the markets of the neighbouring colonies.

Population and Trade.

As the prosperity, wealth, and importance of a new country may be said to depend entirely upon population operating on its natural resources and capabilities, I shall briefly state its progress in Tasmania.

In the year	1810	the number of inhabitants was	1,321
,,	1820	,, ,, ,,	5,400
,,	1830	,, ,, ,,	No return.
,,	1840	,, ,, ,,	46,057
,,	1851	,, ,, ,,	69,187
On 31 Dec.	1859	,, ,, ,,	86,451

And allowing the recent rate of increment down to the present year (1861) the number would be now nearly 90,000.

So general was the exodus of the working population during the gold diggings period of excitement, that the emigration from Tasmania in 1851-2 and 3 amounted together to 35,077: and it is shown by statistical returns that upon these three years there is a balance against the colony of emigration over immigration of more than 10,000 adult individuals, who were poorly replaced by the arrival of families amongst whom were 6,000 women and children. The abstraction of so large a proportion from the adult labouring classes in the colony inflicted a considerable check, and told for some time very distinctly on the results of its productive industry. For instance, the breadth of land in wheat crop in 1851 was 66,236 acres, whereas in 1853 it amounted only to 44,123, and in 1854 to 42,920 acres; a state of depression from which it had so far recovered in 1859 as to have attained in that year to 60,314 acres.

Wool, which in the early times of the colony was permitted, it is said, to rot in heaps on the premises of the settlers, and which from its coarse and low character at the time scarcely deserved a better fate, has been so highly improved in later times, and increased in quantity so immensely, as to have long occupied the place of the principal export and mainstay of the colony. This important end has been attained through repeated and long-continued crosses with the sheep (both ewes and rams), selected from the finest merinos and Saxon flocks in Europe by enterprising colonists, and by the agents of the Van Dieman's Land Company, the purity and excellence of whose live stock of every description long maintained a high character, and fetched the best prices. The capabilities and suitability of Tasmania for the production of wool of the finest fibre and highest value for the purposes of the manufacturer is well known. The high prices commanded in the English market by wool from the flocks of Messrs. Kermode, Smith, Maclanachan, &c., practically attest the fact. Its character was acknowledged to be of the first order at the London Exhibition of 1851, and at Paris in 1855. The capacity of the island for maintaining a much larger number of sheep than are at present depastured there, can scarcely be doubted. For a long time sheep-owners in Tasmania cultivated fineness and softness of fibre exclusively, and the result was a delicate animal and comparatively light carcase, but a change took place with the rise in the value of animal food, and for many years past it has been the aim of flock-owners to combine length of staple with fineness of fibre to the utmost extent which they can command, a course by which they obtain a much heavier fleece, and a larger and probably hardier animal. With this view the highly improved merinos have been crossed with the Leicester, New Leicester, and South Down breeds, &c., and in many instances with great success. From the statistical tables published by government are extracted the following return of sheep depastured in the colony, and of the value of wool exported therefrom in the years mentioned. In 1823 wool was exported to the extent of about 1,000 bales. In the year

	No. of sheep.	Value of wool.
1839	898,590	£194,647
1844	1,145,089	176,269
1849	1,712,291	202,334
1854	1,831,308	325,384
1859	1,697,199	467,968

There appears to have been a falling off in the number of sheep in the colony since 1854, but on closely examining the returns I find the weight of wool exported in 1854 stated to have been 4,419,276 lbs., while in 1859 it was 6,107,903, and as there is a nearly corresponding difference in the value, it may be concluded that small sheep, of short wool and light fleece, had been replaced to some extent with sheep of larger frame and longer and heavier wool. Upon artificial pastures, along the north and north-west coast, where the climate is humid as well as warm, the Leicesters attain a size and weight little short of the prize animals exhibited at cattle shows in England, but they are not calculated to thrive on the comparatively thin natural pasturage. The cheviots have been introduced, and, as might have been expected, are found to thrive prodigiously, and to increase rapidly, but it is a questionable proceeding which would replace the merino crossed with Leicester blood, yielding a fleece of fine wool of rather long staple, for a breed which, however hardy, is remarkable for the irregularity of quality in the wool throughout its fleece, and which scarcely bears a fleece heavier than that of the animal it supersedes.

The amount of increase realised from breeding flocks in Tasmania is dependent to a great extent upon the condition (as to flesh) and health of the ewes, upon the nature of the pastures as to abundance of grass, or the reverse, and upon the nature of the weather at the lambing season. On good, well-sheltered pastures, with ewes in fair condition, I have often seen upwards of 100 per cent. saved; if at any time the yield falls much below 80 per cent. there is ground for suspecting some mismanagement; if it falls below 50 per cent. gross defects of management must have existed. One of the most ordinary causes of failure of increase in sheep husbandry is the very prevalent custom of overstocking, so as to produce an unnatural delicacy of constitution in the animal.

Sheep farming, from the earliest times of the Australian settlements as the resort of free colonists, has been regarded as the most profitable mode of investing capital. In flocks where there is a fair proportion of breeding ewes, of wethers, and other dry sheep, the clip of wool is considered to be more than sufficient to defray all charges of management, and the value of the annual increase becomes the net measure of profit accruing. There have occurred some singular vicissitudes in the value of sheep in the Australian colonies. In 1839, prices were very high, in consequence of a large exportation for two or three years to the new colony of Port Philip, but in 1843 sheep were selling at 2s. 6d. per head in that settlement, and at the same time fetching very low prices in Tasmania. The boiling-down process was discovered, and immediately prices assumed a comparatively high figure, and small capitalists who had purchased extensively at the previous extremely low rates, found themselves suddenly converted into men of large fortune. Many Tasmanian settlers became at that period large proprietors of sheep in Victoria, and were proportionately enriched.

Whalefishing.

The insular position of Tasmania, the magnificent harbour which lies alongside its picturesquely situated metropolitan city of Hobart Town, the numerous sheltered channels, bays, and coves which indent the southern coast, and the great number of rivers which are navigable to a greater or less distance beyond their estuaries, have given to the inhabitants, and especially the youth of the island, a strong tendency to a nautical life, and has led from an early date in the history of the colony to the systematic prosecution of that bold and adventurous species of industry, whale fishing. This branch of industry has been carried on in two distinct forms; according to one, ships are fitted out, provisioned, and manned for a cruise of many months in various parts of the South Seas, expressly with a view to hunt and capture whales, and make prize of their oil, and the whalebone to be obtained in the case of the black whale; according to the other, the whale was only hunted along the shores of the island at the season when natural instincts led them to seek ease and retirement in quiet secluded bays or along sheltered shores. Bay-whaling, as the latter branch was termed, was prosecuted by boats' crews, furnished with every appliance for the chase, and for "trying out," as it is technically called, and placed at fixed points upon the coast; but it has, for more than ten years, ceased to be carried on, whales having become too wary to approach shores so fraught with danger to them, except in a few isolated cases.

The whaling vessels from the port of Hobart Town have, for many years, formed a not unimportant colonial marine of small craft, returning, as they often do, richly laden with the spoils of the deep.

The first notice which I have met with of export of oil from the colony is an entry of 726 tons in 1822. The following quotations will give an idea of the average annual yield of the Tasmanian whale-fisheries:—

	Vessels.	Tonnage.	Value of oil and whalebone.
1839	26	3,146	£119,113
1849	34	7,791	37,824
1859	No	return.	63,325

From which last entry it would seem that this branch of trade, has entirely recovered from the blow it received through the loss of crews at the time of the gold diggings.

Intimately associated with the subject of the whale fisheries is that of ship-building in Tasmania, a topic which, however, will be touched upon under another head.

Agricultural Products.

Wheat has been named as one of the staple products of the colony. In no part of the world is it raised with greater facility or of more excellent quality. There is now exhibited at the Crystal Palace, Sydenham, a sample grown by Mr. Axford, of Bothwell, Tasmania, which weighed 70 lbs. per imperial bushel. Samples sent to the London Exhibition of 1851, and to Paris in 1855, were pronounced to be of first-rate quality, and obtained medals. At Circular Head, and in other districts in the island, 50 bushels to the acre have been reaped. The average return, notwithstanding, is comparatively small, as it is not believed to exceed 20 bushels to the acre. The agriculturist possesses, however, in the equability of the seasons and in their genial character,—in the mildness of winter weather and the length of the winter day—and in the certainty of favourable weather during seed-time and harvest, more than an equivalent. Besides, there are the best reasons for believing that much of the wheat produced in the colony is grown on land which, from having borne one crop of wheat after another for a long series of years, has become partially exhausted, and that 20 bushels per acre would be very far below the average return under a skilful rotation and proper system of manuring. At present it is the boast of the Tasmanian farmer that ordinarily he applies no manure to his land. A few select farms, in various parts of the colony, such as "Clarendon," the estate of Mr.

J. Walker, on the Derwent river, and some few surburban farms, such as that managed by Mr. Shoobridge, in the close vicinity of Hobart Town, form marked exceptions to this slovenly and wasteful want of system, and make, both in cereals and root crops, the largest and heaviest returns for the liberal and judicious course of husbandry to which they are subjected. It is therefore a reflection on the farmers of Tasmania, rather than a disparagement to its soil or climate, to say that the return of wheat to the agriculturist is generally so much less than it ought to be. There is still another mode of explaining the occurrence of light crops. The best lands are usually the most heavily-timbered, and it has not at all times been convenient to the settler to select for cultivation the land best adapted to this object in preference to that which is naturally clear of trees, or nearly so. Hence it happens that there has been brought under corn tillage much land altogether unfit for the growth of wheat, without heavy aliment in the shape of manures, which it rarely or never obtains. The great advantages which the Tasmanian farmer enjoys in the fine weather of winter for out-door labours—of spring for his seed time, and of autumn for his harvest, as it relieves him of all anxiety, may well reconcile him to a comparatively light return, but it is not right that a deficiency arising out of defective farming should be attributed to the soil; let the onus rest on the right shoulders. The price of wheat is now, and has been for some years, dependent less upon the domestic relation between the quantity produced and the number of mouths to be fed, than upon the demand which the market at Melbourne may present. Indeed the Melbourne markets, it may be said, do now at all times most materially modify, if not absolutely rule, the prices of provisions in the neighbouring colonies. At the same time it is matter for congratulation to Tasmania, and her wheat producing rival, South Australia, that this Babel of the South does afford to them a market for every variety of agricultural produce which they can raise. Wheat has been sent from Tasmania to the London market on more occasions than one, when very low in price within the colony, and at a period antecedent to the existence of a gold colony in its neighbourhood, but although the quality of the grain was highly appreciated, never with a result to encourage the belief that such speculations might expand into the dimensions of a regular trade. The freight and charges consequent on a long voyage, and on exposure to many casualties, have invariably absorbed the whole margin left for profit. The colonial market may therefore be said to be the only outlet at present for Tasmanian wheat, but it is a market already making large demands, and widening from day to day with every addition to the digging population, and with every fresh advance colonisation makes in the direction of those regions in Australia where tropical heats forbid the attempt to cultivate the cereals of temperate climes.

Should the exigencies of the cotton supply for the workshops of Great Britain become so imminent as to demand the creation of a cotton-growing community within the territory of the empire, there could not probably be found any locality so well adapted, by natural conditions and geographical position, as Port Essington, or its neighbourhood, for the purpose. Whether a new colony may or may not grow out of the present cotton-supply-question, a community of British subjects must, in the ordinary course of things, flourish there at no distant date from this time; and in the event of such a contingency a new and permanent market will be opened up for Tasmanian produce, which must afterwards expand as population spreads east and west along the shores of the Australian continent.

Coral reefs in tropical seas have been found to present serious impediments to the integrity and permanent utility of submarine telegraph cables, and the question has already been mooted whether the line which is to connect the Australian colonies with Europe *via* Batavia, Singapore, and India, ought not to pass through the heart of Australia? The next step will be the project of carrying a line of railway or a wooden tramway, plated with iron, as has been extensively practised in America, across the Australian continent, from the upper navigable portion of the Victoria river to that point in the Murray river, towards which the Melbourne railway lines are now advancing. This would open a vast market for another important staple product (the blue gum and other timber) of Tasmania, and would bring this and the other Australian communities into close intercourse with the industrious and teeming populations of India, China, and Japan.

Were this the occasion for discussing such a point, there would be needed little argument to show that State policy demands of the Government the establishment of a British settlement on the north coast of Australia, and the formation of a naval station there, which might, as from a centre, radiate to India, China, the Oceanic Islands, and her Majesty's possessions in Australasia, at once to overawe the lawless and predatory hordes inhabiting the islands of the Archipelago, and to command and protect the commerce of the Straits, and of the existing Australian colonies,—but little argument would be needed to show that sound State policy would instantly decide the British Government to eliminate and permanently exclude from the midst of British people convicted offenders, who, when retained, must interfere with the home labour market in some degree, and when returned to and intermingled with the mass, must again, in the very nature of things, become criminal, and at length as a class, dangerous to society; and that, by their extrusion, not only would the criminals themselves be improved and made useful members of society elsewhere, but that the interests of humanity at large would be thereby consulted. Were more practical and more immediately urgent arguments required, the cotton-supply-question may be said to have arisen in order to furnish them, and to render the formation of a cotton-growing settlement on strictly British soil almost a matter of State necessity.

Communities so differently placed as would be colonies on the north and south of Australia would produce little in common; while, therefore, the cotton of the former would be forwarded home to aid in satisfying the requirements of Manchester and Glasgow, and to propitiate anti-slavery advocates and the friends of civilization, their coffee, sugar, and rice, &c., would be sent to Southern Australia and to Tasmania, to be exchanged against potatoes, oats, wheat, flour, and other products of temperate regions.

Reverting to the subject of wheat, I may state that within the last 20 years it has been sold in Hobart Town as low as 3s. 3d. per bushel, while the average price for the same period may be fixed at 6s. to 7s., a rate which, under the ordinary circumstances of wages, &c., pays the farmer well. The amount of wheat exported from the colony:—

In 1849, was 296,236 bushels, valued at £51,722.
,, 1859, ,, 196,405 ,, ,, £92,861.

The flour exported in 1859 was valued at £105,128. The price-current of 23rd January last, just received from the colony, quotes the price of prime samples of wheat at 7s. to 7s. 3d. the bushel. The cultivation of wheat admits, it may be added, of almost boundless extension in Tasmania, every probability being in favour of the opinion that the yet uncultivated portions of the colony contain lands of the richest character, and that as these are brought under tillage a very much higher average yield of wheat will be obtained, altogether independently of increment from improved modes of culture.

Oats.—Next to wheat, as an export, in the year 1859, stands oats. This grain is extensively grown on the higher agricultural estates in the centre of the island, and in the rich brown soils about Westbury and Deloraine. It may be considered a sure crop on moderately good soil in every part of the colony. It is said that 100 bushels per acre have been obtained from the soil of some rich marsh land after drainage. The extent of land in cultivation with oats and the produce obtained run as follows :—

In 1849, extent 19,214 acres, yielding 456,015 bushels.
,, 1854, ,, 35,320 ,, ,, 526,547 ,,
,, 1859, ,, 36,209 ,, ,, 918,881 ,,

Making an average return of less than 24 bushels per acre, the probabilities being strong that the mean is considerably under the legitimate figure, in consequence of much of the land stated to be under oats in 1854 having been self-sown from the crop of the previous year.

The usual return from ordinary soils, and in situations adapted to the growth of this grain, may be taken at about 35 bushels to the acre. There is a sample of Tasmanian oats exhibited at the Crystal Palace, Sydenham, which weighed 49 lbs. per bushel—the yield having been 60 bushels to the acre. The value of oats exported in 1859 was £94,968. In the *Price Current* of 23rd of January last, from Hobart Town, the price quoted is 3s. per bushel. Barley is not a favourite crop with farmers in Tasmania. The variety known as Cape barley is grown pretty generally in the autumn and winter, in order to be cut very early in the season as green-feed for cattle, and the yield is usually rather heavy. The export of barley is trifling. Of other agricultural products, the most important is the Potato. This crop is chiefly cultivated along the estuaries of the rivers opening into Bass' Strait, and at Circular Head, Table Cape, and Emu Bay, on the north side of the island, and along the shores of D'Entrecasteaux Channel, the Huon River, Brown's River, and the Derwent River, near Hobart Town, on the southern side. The potato of Tasmania is far superior to that of any part of Australia or New Zealand ; it is quite equal in point of dryness to the best potato grown in England, and very much to be preferred in flavour. The ordinary return obtained in its cultivation varies excessively ; the diversity is due as much probably to varieties of tillage and treatment as to difference in the constitution of soils. A mean of the produce of the whole colony produces five tons to the acre ; the best farmers do not expect more than seven or eight tons, but the yield in some cases is more than ten tons to the acre. In the Statistical Tables for 1859, it is stated that 7,777 acres of land, cropped with potatoes, yielded 41,493 tons :—

In 1849 the price of potatoes in the colony was £6 per ton.
,, 1854 ,, ,, ,, £25 to £30 ,,
,, 1859 potatoes were sold at . . . £3 and £4 ,,

In December, 1860, the last shipment from Hobart Town, 360 tons, sold at . . . . £8 8s. ,,
Potatoes were exported in 1857 to the value of £61,408.
,, ,, 1859 ,, £42,906.

The turnip crop is quite as hazardous in Tasmania as in England, but of far less critical importance to the farmer, live stock being by no means so dependent on housing and artificial food there as they are in England during the winter season. Mangold-wurtzel and carrots are both well suited to many Tasmanian soils, but are not much grown.

Hay.—English grasses are cultivated rather extensively for hay, and yield a fair return. As provender for horses it is always in demand for domestic consumption, and for the Melbourne market. The price in Hobart Town in December, 1860, was £4 and £6 per ton.

Butter and cheese were exported in the year 1859 to the value of £13,877. The dairy is rising in estimation among farmers as a source of profit; and the butter and cheese of Tasmania has acquired a high character in the neighbouring colonies. The last quotations at Hobart Town (23rd January) give for fresh butter 1s. 3d. to 1s. 6d., and for cheese 1s. 6d. to 1s. 9d.

It has lately been suggested, at a meeting of the Royal Society of Tasmania, that the climate of the Island is peculiarly well adapted for the mulberry tree and for the cultivation of the silk-worm. Food, it is said, would be abundant, as the tree would be in leaf the greater part of the year.

Live Stock.—Horses, sheep, cattle, and pigs were exported from Tasmania to the value of £60,900 in 1859.

The feats of Tasmanian horses on the turf early established for the colony the reputation of possessing the best blood and bone in the southern hemisphere. The late governor, Sir W. Denison, was a warm patron of the turf, and frequently went out with the hounds, proving himself as fearless as firm in the saddle. The gold of Victoria has now effected a transfer of much of the horse-flesh of Tasmania to the opposite shores. The number of horses in the colony, in 1859, was 20,559.

The breeds of cattle which have been introduced into the colony are the Durham or short-horn, the Hereford, the Ayrshire, the West Highland, and the Devon. These have all, at one time or other, and to a greater or less extent, been crossed with an original coarse long-horned variety, betraying Indian lineage or connection, and derived probably from New South Wales, in the very earliest times of the colony. The Durham is the favourite breed, but it carries a frame and carcase too large for the natural pastures, save in exceptional localities, and it is too delicate in constitution ; the Ayrshire maintains in the colony its high reputation as a milch cow ; but the Devon is by far the best adapted in frame, constitution, and kindly feeding properties, for the natural pastures of the island, and it is decidedly a comely animal. The kyloe, or West Highland breed, promises to yield a cross extremely well-suited for the wild, coarse, and humid feeding grounds to the westward. The number of horned cattle in the island in 1859, appears, by Government tables, to have been 79,950. Pigs are extensively cultivated by farmers of every degree. In the early times of the colony a few were allowed to run wild in the bush, where they lived chiefly on fern roots ; they have long since been extirpated. The number in the colony, as per statistical return for 1859, was 32,008.

Fruit has within a few years acquired importance, as an article of export from the colony. Surplus apples used, in bygone times, to be converted into cider, which was given to sheep-shearers, haymakers, and harvest-men, or sold at a moderate rate. They are now sent to the Melbourne market, where the demand for them is increasing.

There are in the colony more than 100 varieties of apple ; many of them are of finer flavour than the original sorts in England, and they attain to a larger size. There are of pears more than 50 varieties, and amongst them are some of the finest quality, and some of the longest keepers. There are 25 sorts of plum, 12 kinds of cherry, 6 apricots, 1 nectarine, 30 varieties of the vine, 6 kinds of the fig-tree, mulberry, medlars, almonds, many sorts of gooseberry, currants, raspberry, &c. Most of these fruit trees bear in great profusion, and the different fruits ripen more perfectly, and are thought to possess higher flavour than the same sorts in England. Peaches and plums are still often allowed to fall, and go to utter waste under the trees in large quantities, and so also with other fruits not unfrequently.

The value of fruits and preserves exported—

In the year 1849, amounted to £6,976.
,, ,, 1859, ,, ,, £62,430.

Timber.—The timber trade of Tasmania is one which within a comparatively short period of years, has assumed large proportions and great importance to the colony. In 1849, the year preceding the discovery of gold in Victoria, the value of the entire export of timber was £34,566. In 1853 it had risen to £443,000 ; in 1854 it was £306,857 ; but it again receded with the depression in prices generally in 1857, to £130,650, and in 1859 to £82,132.

The usual denominations of timber exported are, Sawn stuff:—Heavy scantling, joists, beams, quartering, battens, &c. Split stuff, post and rails and palings for fences, laths and shingles, round spars, beams for piles, telegraph poles, &c., &c.

The *Eucalyptus*, or Gum-tree family, contributes to this supply a quota from each of several species. The south side of the island furnishes chiefly blue gum and stringy bark timber; the north chiefly swamp gum and stringy bark; but from both localities are obtained timber of other species of gumtree such as peppermint, white gum, &c. The blue gum grows exclusively upon the southern side and along the eastern sea-board of Tasmania, recurring on Flinders Island in Bass's Strait. Blue gum possesses the highest qualities as a timber applicable to every variety of work requiring strength and durability, coupled with the largest manageable size of scantling. The trees attain to 350 feet and upwards in height, and to a circumference sometimes exceeding 100 feet.

Planks of this wood were cut for the International Exhibitions at London in 1851, and Paris, 1855, having a width of 20 by 6 inches, which measured respectively 145 and 160 feet in length, a length which might be extended to 200 feet if specially required, as the trunk or bole of this tree often measures 220 feet and upwards to the first limb. There is, however, a practical difficulty in the shipment of such long lengths when ready, as few vessels can be found to stow them on board. The timber of the blue gum has been found nearly if not quite equal to oak for shipbuilding. Vessels of 400 to 500 tons burden and under constructed of it, have from time to time during many years been turned out of the ship-yards of Messrs. Degraves, Watson, Ross and McGregor, &c., at Hobart Town, and it is the proud boast of Tasmanian ship-owners that the age of the colony is not yet such as to have fairly tested the durability of this timber.

A series of carefully conducted experiments, by Mr. Mitchell, upon scantlings of blue gum, of the same dimensions as those employed by Captain Baker, in his experiment on Morung Saul, and of Professor Barlow, in his experiments on teak, and other timbers, have established the following comparative results:—

Specific gravity of Blue Gum . . = 1,090
" " Morung Saul . = 1,054
" " English Oak . = 969
" " Teak . . . = 745

Elasticity remaining perfect, the deflection and weights sustained are:—

Blue Gum,	2,625	inches deflection,	and	weight	776 lbs.
English Oak	1,590	"	"	"	150 "
Morung Saul	1,175	"	"	"	450 "
Teak	1,151	"	"	"	300 "

The breaking weights of each in pounds were:—Blue gum, 1,330; morung saul, 1,192; English oak, 637; teak, 938. The value of direct cohesion on a square-inch of timber is:—Blue gum, 93,408; ash, 17,337; teak, 15,550; English oak, 10,853. These results exhibit a superiority in favour of blue gum so overwhelming as to distance all competition. It only remains to secure for the important practical purposes of ship-building, &c., &c., timber equally as well seasoned as the samples operated upon by Mr. Mitchell, to realize in its actual employment and use the full advantage of the high qualities it is found to possess. Were shippers of this timber bound by legal enactment in the colony to prove in each case that the timber has been cut and seasoned in the scantling for 5 years, it would, probably, be sufficient to protect the trade from the imposition of inferior samples, and the character of the timber from doubts and aspersions as to its superior value. Looking at the paramount superiority of this timber in the qualities most valuable for shipbuilding purposes, it may fairly be questioned whether full justice is done to its merits by the position (Class A 1, for 9 years) assigned by Lloyd's to ships built of it.

The enormous demand which has of late years arisen in England and other countries for railway sleepers of wood has suggested to Tasmanian colonists the advisability of proposing the employment of the blue gum of the colony, on account of its hardness, strength, and durability; and they urge that, as sleepers of blue gum can be supplied at 5s. or 5s. 6d. each, which would last more than double the time of the pine sleepers now in use, which cost 3s. 6d., a vast saving of outlay in money and labour would, by its adoption, be effected to the railway companies, &c. Several shipments of sleepers of the blue gum have recently been forwarded to London in order to their being put upon their trial. It would be but fair to the future character of the blue gum, that the extent of seasoning to which these sleepers have been subjected previous to shipment should be made known, so that if oversight or negligence has led to the export of green wood, any injury which the reputation of the timber might thus sustain may be obviated, and the recurrence of so objectionable a practice prevented. The blue gum has been used for telegraph poles, and found to answer well. The swamp gum, the stringy bark, the iron bark, &c., will be found scarcely, if at all, inferior in any useful quality to the blue gum when properly seasoned. This and other varieties of Eucalyptus abound to such an extent along the sea-board of Tasmania as to enable the colonists to say that these timbers can be supplied for an indefinite period of time in any quantity the mechanic world may require.

There are many varieties of trees in the forests of Tasmania, which yield woods for house-building fittings, implements, &c.; and there are others of great excellence and beauty for furniture and for purposes of the cabinet-maker. Some fine samples were sent to the London Exhibition of 1851, and to Paris in 1855, and there are now on view, at the Crystal Palace, Sydenham, a few superb specimens of the myrtle-wood *Fagus Cuninghamii*, and the musk-wood, *Eurybia argophylla*—the Black-wood, *Acacia melanoxylon*, and Huon pine, *Dacrydium Franklinii*, &c. Wherever seen, these ornamental timbers have been much and justly admired for their rich and harmonious tints and beautiful venation, and need only to become more extensively known in order to come into large demand in this market. The source of supply, I may add, is, to all practical intents inexhaustible.

Kino, an important medicinal agent, is obtained from all the Eucalypti in large quantity.

Manna, white, and more delicate than that in common use, exudes plentifully from the white gum tree.

Cajeput Oil, or an oil of the same powerful qualities, is procured, by distillation, from the leaves of the blue gum tree. Next to timbers may be ranked the

Building Stones of Tasmania. Amongst them there are granite, white and red—the latter of a vivid tint, and susceptible of a very fine polish.

Sandstone of close, fine grain, compact, and often of a snowy whiteness, is plentiful; buildings constructed of it, as many of the houses in the colony are, present a fine appearance. Such as are used for building, are chiefly of the carboniferous era.

Limestones belonging to the silurian, carboniferous, and tertiary periods, are largely developed and readily available for the purposes of the farmer and builder.

Stone has begun to appear amongst the exports of the colony. In 1859 the value shipped was £2,740.

Coal occurs rather abundantly in Tasmania, and is of two sorts, anthracite and bituminous coal. The localities in which they have been found, are the bituminous coal, at the Mersey and Don rivers, north side of the island; at Kingston, Fingal, Break-o'day, Douglas River, Schouten Island, and at Prosser's Plains, on the east coast; and at Jerusalem, Jericho, Springhill, Green Ponds, and Hamilton, inland, on the southern side.

The anthracite has been found in Tasman's Peninsula—at Adventure Bay, at Long Bay, at Recherche Bay, at South-east Cape, and at New Town, immediately contiguous to Hobart Town. The anthracite beds at Tasman's Peninsula and at New Town are worked for domestic consumption in Hobart Town. The bituminous coal at Break-o'day, and the Douglas River, occurs in beds of from two to ten feet in thickness, and the quality was so favourably reported of by the late Sir H. De La Beche, as to lead to the establishment of mining operations. The bituminous coal at the Mersey River has also been worked. The coal near Hamilton is on the estate of Mr. Chilton, and was discovered at a depth of forty feet from the surface, in the process of sinking a well in his farm-yard. It is a fine free-burning coal, with high-heating powers; and the seam is four feet thick where it was intersected. It is distant from the City and Port of Hobart Town a little over forty miles, and from the head of the steam-navigation, on the River Derwent, about twenty miles. It is therefore to be hoped that a scheme may be organised for working and conveying it, by means of an iron railway, or plated tramway, to New Norfolk, whence it might be taken by steamer to Hobart Town. A fuel so well adapted for steam purposes, the production of gas, and for the forge, would find a ready and extensive market there. The existence of coal at so many points in the island, argues its persistence over a considerable area of country, and foreshadows, with tolerable certainty, the rise and progress of a career of manufacturing industry in the future of Tasmania.

Clay Iron-stone occurs in these seams, and in nodules alternating with coal and shales at the Douglas River, on the east coast of the island,—an association big with promise and coming prosperity and greatness for the country.

An iron ore yielding upwards of 90 per cent. of metal, occurs at York Town, on the Tamar River, near the foot of the Asbestos hills, where it is associated with ancient slates on one hand, with limestone, serpentine, and asbestos on the other; and it is thought that coal may yet be found in the same neighbourhood. Here are the elements of wealth and power on the margin of a navigable river; Anglo-Saxon industry, enterprise, and capital, will ere long develop their capabilities.

Galena.—Lead ore has been found in limestone at Norfolk plains, associated with traces of copper, upon land the property of Mr. Abraham Walker, but the indications have not been prosecuted so as to determine the value of the deposit. As long ago as 1847, while out on a geological excursion, I discovered in limestone a vein of Galena crossing the bed of the Franklin River near Macquarie Harbour, on the west coast of Tasmania, and several miles higher up the river I again met with traces of the same metal in veins of calscpar. On the west side of the Frenchman's Cap mountain-chain, I found oxide of manganese in detached masses over slate rocks, associated with silicious limestone, apparently of great antiquity, and likely to prove metalliferous.

Gold has been washed out of the detritus from old slate rocks, at various points over a large area of country at Fingal, and along the upper stream of the South Esk and the Tyne River. Gold has also been washed out in the central lower valley at Perth, Hadspen, Lake River bridge, Norfolk Plains, at the Arms of the Creek, in the Channel of the South Esk, within three miles of Launceston, and near Mount Direction, on the east side of the Tamar River.

Gold has also been found on the Forth River, and on the Hellyer River, near the Van Dieman's Land Company's lands in the north-west. Gold has likewise been got by washing near Oyster Cove, on the margin of D'Entrecasteaux Channel. Both labour and capital have been expended in a search, hitherto in vain, for a payable gold field. Many of the diggers at Fingal have doubtless collected enough of the precious metal to pay expenses, and to enable them to make a handsome saving; but the majority of them have relinquished the pursuit, disgusted with the profitless nature of the work. I have seen grains of gold washed from soil taken up within a few inches of the surface, and I myself have picked up a granular piece the size of a small tare or large pin's head, under a loose surface-slab of slate. Still gold washing in Tasmania does not pay, more than 20s. being usually expended in realising the worth of a sovereign in gold dust. Quartz-crushing companies have also been tried, and proved a failure. Happily for Tasmania, there are within her territory numerous sources of national wealth and prosperity for the employment of industry far more profitable and more permanent than that of gold seeking, which has ever been found unnaturally to excite and disorganise the working classes of a population, and to foster in the upper classes habits of great luxury and extravagance.

Gems.—Tasmania yields a few gems of great beauty and brilliancy. Specimens sent to the London and Paris Exhibitions of 1851 and 1855 attracted some notice. They consist of topaz, beryl, hyacinth, garnet, cairngorm, rock crystal, tourmaline, precious opal, with common wood opal, agates, and cornelians in great abundance. The topaz, tourmaline, beryl, hyacinth, and rock crystal are now found imbedded in gravel over granite, on Flinder's Island and Cape Barren Island, in Bass Strait, but as there are upon the mainland of Tasmania considerable developments of granite, of the same schorly character as that upon which the topaz gravel and rock crystal, &c., are found on the islands in Bass Strait, it is not unlikely that similar gems may also be found here. Cairngorms do certainly occur on the mainland of Tasmania, both of good tint and large size. The Tasmanian topaz is now so well-known as a gem of the finest water, and of brilliancy scarcely inferior to that of the diamond, that nothing need be said in its commendation. Garnet occurs in granite on the east coast of Tasmania. Hyacinth occurs with topaz and beryl on the islands in Bass Strait, and is scarce. Rock crystal is plentiful in the same localities.

On the *Fauna* of Tasmania but few remarks are needed: in general character it resembles that of Australia. The splendid and most accurately illustrated works of Mr. Gould, have made the world of science and of taste acquainted with the forms and colouring of nearly all the birds and mammals of both countries. Of the marsupial mammals the *Thylacinus cynocephalus* (*Tiger* or *Hyæna* of the colonists), and the *Dasyurus ursinus* (or *Devil* of the colonists), are peculiar to Tasmania, and both are destructive to flocks, the former to the adult sheep, and the latter to lambs; but as they only inhabit the wildest and less accessible portions of the country, they are not troublesome or injurious to flocks generally over the island. Specimens of these two animals may be seen at the Zoological Gardens, in Regent's-park. The large Kangaroo, of the Island *Macropus Major* (Shaw)—the "Forester" of colonists, is fast becoming very scarce. The Brush Kangaroo and the Wallabry are hunted and killed in great numbers.

The black and grey opossum are shot on moonlight nights for the sake of their skins, which are exported to be dressed and used as furs, for which purpose they possess, I am assured, peculiar recommendations.

Of the birds of Tasmania, the largest is the emu, *Dromaius Novæ Hollandiæ* (Gould), and this interest attaches to it—that, in common with the aborigines of the island, it is almost extinct. The only genuine Tasmanian emus are in possession of Captain Robert Hepburn, R.N., of Roy's Hill, St. Paul's Plains, Tasmania, by whom they have been carefully reared in a preserve for many years, the breed having been obtained, in the first instance, from eggs found in the "bush." The most elegant and beautiful of the larger birds is the white hawk, *Astur Novæ Hollandiæ* (Gould). The sportsman will find in Tasmania a considerable variety of game birds; for instance, the snipe, quail, bronze pigeon; vars of duck and teal; cereopsis, plover, rail, bittern, anthochæra, &c.

Of the parrot tribe, which is numerous in the colony, the most showy species is the Roselle, *Platycercas eximius* (Gould); and the most elegant, the Ground Parakeet, *Pezoporus formosus* (Gould).

There is but one representative of the Finch tribe, and it is a cage-favourite—the Fire-tail, *Estrelda bella* (Gould).

All the domesticated poultry of England, from the peacock to the bantam, and sundry varieties of pigeons, have been introduced, and thrive immensely, with very little attention in the way of feeding. Some game-birds of England have been introduced, and are kept in preserves, it having been found that as often as they are turned out they are shot by poachers and killed by wild cats; amongst them the pheasant and partridge, white swan, &c.

The seas surrounding Tasmania abound with a great variety of fishes, many of which being firm in flesh and of delicate flavour, make choice dishes for the table. The trumpeter, the perch, the flounder, the rock-cod, the mullet, the garfish, &c., &c., are all in estimation; shell-fish—oysters, mussels, cockles, periwinkles, &c., are plentiful.

The Hobart Town market is plentifully supplied with the finest cray-fish.

There is a great deficiency, however, of fresh water fishes, those already referred to belonging exclusively to salt water, or only venturing to leave it to visit temporarily the estuaries of the rivers. There is only one trout found in the rivers and it rarely attains to a greater length than 6 or 8 inches.

SALMON.—A desire having arisen in Tasmania to obtain the breed of salmon for the rivers of the island, which are supposed to be of a character and temperature, and to open into seas in every way suitable to the nature and requirements of that fish, two attempts have been made to compass the object, but both failed. The first trial, made by Mr. Boccius, under the auspices of the Secretary of State, failed signally. The arrangements for the second experiment were organized under the eye and direction of Mr. James Youle, (an influential colonist of Tasmania) and the charges defrayed by subscription. This also proved a failure although the result was such as to lead to the belief that if a larger quantity of ice had been shipped, so as to keep down the temperature till the voyage terminated, the ova might have remained unhatched till landed, when the success must have been considered as almost secured. The Derwent and Huon rivers, on the south side, the Gordon on the west, and the Mersey, the Forth, and the South Esk may be regarded *à priori* as salmon rivers of the most promising description. But the rivers on the south, and the first of them the Derwent, should have the preference in case of further experiment, as the noble estuary, itself a little sea, opens into an ocean cooled by currents direct from the polar regions, whereas the northern rivers, however suitable in other respects, have the disadvantage of opening into a strait whose waters have had their temperature considerably raised.

The parliament of Tasmania have voted £2,000 to defray the expenses of another attempt, and the Colonial Government has committed the entire charge, conduct, and responsibility of the arrangements to the Australian and New Zealand Association in London, of which Mr. Youle and other Tasmanians are active members.

English carp and tench have been introduced into the colony, and it has been suggested that advantage might be taken of the person proceeding in charge of the next salmon experiment to place in his care a quantity of trout, with which to stock the rivers of the island.

LAND REGULATIONS.—Remarks upon game and fishes, intimately connected as they are with the rights of landlords, lead naturally to the subject of land, as regards its possession and property. It is perhaps the one great aim of emigrants, who leave their native country without a distinct intention of returning, to entertain an idea, more or less clear and defined, of making themselves landed proprietors. Such being the case, it is important to set out, in a few words, the terms upon which Crown or Public lands can be obtained in Tasmania. The Public lands of the colony are classified under three heads, viz.:—

Town Lots;
Country or Agricultural Lots;
And Pastoral Lands.

And there is, in the Western Country, a tract designated as "Unsettled Lands."

Town Lots must be sold at auction; and if sold for cash, one-fifth must be paid down, and the residue within a month; if for credit, then one-tenth is added to the price, and the sum becomes the purchase money, of which one-fourth must be paid down, and the residue by three equal annual payments.

Country or Agricultural Lots, not exceeding 160 acres, and Pastoral Lots, not exceeding 1,280 acres, are to be sold at auction, or lands may, under certain conditions, be purchased from Government by private contract. Lands exposed at auction and remaining unsold may be purchased by private contract, at any time within twelve months, at the upset price. Lots of agricultural or pastoral lands, of 320 acres or under, and which have not been offered at auction or let on hire since 1st December, 1857, may be purchased by private contract at £1 per acre. The lowest upset price of land, never held under a grazing license, is fixed at 10s. per acre. The payments for agricultural and pastoral lands, if sold for cash, must be one-fifth at time of sale and the balance within a month; if sold for credit, whether by auction or by private contract, then one-fifth of the purchase money must be added as a premium, when the original sum and premium together shall constitute the price of the land, of which one-fifth must be paid down, and the residue in eight equal annual instalments. Credit may be obtained for purchases of not less than £40 value, and unpaid balances may be paid off at any time during the period of credit fixed by regulation.

The Unsettled Lands are disposable on terms yet more liberal. Gratuitous grants of 50 to 640 acres are made to *bona fide* settlers, in proportion to the capital they possess, live stock, implements of husbandry, machinery, &c., being reckoned as capital. Blocks of 10,000 acres of the unsettled lands may be obtained on gratuitous leases for 10 years, that is at a peppercorn rent, with right of selection for purchase of 640 acres of the same at £1 per acre. It will be seen at a glance that these regulations are calculated generally to subserve the interests of purchasers and occupants of land, and that they are peculiarly adapted to suit the convenience of emigrants and others possessed of small means and burthened with large families, since such persons, accordingly as they take advantage of one or other, may secure to themselves the full use of their capital for years on the credit system, or save the outlay altogether by embracing the principle of the gratuitous grant in proportion to property.

REVENUE.

The aggregate amount of exports from Tasmania was valued in 1859 at	£1,833,249	0	0	and
The imports for ditto at . . .	1,675,417	0	0	
The revenue for ditto was . .	429,426	4	7	
The expenditure for ditto was .	422,588	14	3	

In the latter two items are included certain credits and debits on account of debentures issued and public securities falling due and paid off within the year.

The public debt of the colony amounted, on 31st December, 1860, to £358,560, payable at various dates extending to about 1880, and so provided for as not to exceed in amount the sum of £25,000 in any single year. There are five banks in Hobart Town, three having a colonial and two an English proprietory. The coin and bullion in the banks on 31st December, 1859, amounted to £270,194 19s. 8d. There are branches of both the British and two of the Colonial banks established in Launceston. There are also savings banks in Hobart Town, Launceston, and in the rural districts. By late Hobart Town newspapers, ice appears as a new export to Sydney; it is obtained by collecting snow on Mount Wellington during the winter season. By the constitution of the colony a yearly sum of £15,000 is secured for ecclesiastical purposes from the general revenue of the colony; the actual expenditure on account of religion in 1859 was £14,666 7s. 3d.

SOCIAL CONDITION.

Education receives in the colony the important consideration and all the support which a subject involving such momentous results and grave responsibilities demands. There are two boards of education, one for Launceston and the north side of the island, the other for Hobart Town and the southern side, and with them rests the entire management and control of the government schools (80 in number) throughout the colony. There are in the city of Hobart Town, unconnected with government, two seminaries, affording education of a high order to the youth of the colony, the Hutchins School and the High School, and about 40 respectable schools scattered through town and country. At the Hutchins School and High School several scholarships are established. The Parliament of Tasmania has lately constituted a superior Council of Education, with power to grant a degree of Associate of Arts, and has, with a liberality which cannot be too highly praised, established 8 scholarships of £200 a year each, tenable for 4 years at British Universities, by youths of Tasmania who may acquit themselves to the satisfaction of the Board of Examiners. The Queen's Orphan School, solely upheld at the charge of the public, maintains and educates 400 boys and girls left destitute. Education is therefore well appreciated, and its requirements amply provided for. The Government expenditure on account of schools in 1859, was £15,342. The principal towns in Tasmania are—

The metropolitan city of Hobart Town at the south, and Launceston at the north-end of the island.

An electric telegraph, in operation between these towns, has been extended through Bass's Strait by means of a submarine cable.

Launceston is situated at the head of the valley, and navigation of the river Tamar, where the North and South Esk unite to form that river at a point 40 miles from Bass's Strait, into which it empties itself. The town, which contains 8,000 inhabitants, has increased much of late years, and is still advancing rapidly, having apparently imbibed some of the enterprising spirit animating the population of Melbourne, with which it is in close intercourse by means of steamers. The country surrounding Launceston is almost on every side nearly level, and of a rich and productive agricultural character. It possesses some handsome buildings. It cannot be said to compete with Hobart Town in natural beauty of situation, but the gardens and promenades are well-designed and tastefully laid out, and ornamented; and it is only second to the capital in its support of learned societies, Mechanics' Institutes, Mutual Benefit Societies, &c.

Hobart Town, the capital of the island, is the cathedral city of the Anglican Episcopate of Tasmania, and there is a Roman Catholic Bishop, who derives from it his title. The inhabitants number about 25,000. It contains the nucleus of a noble public library, partly supported from Government Funds. There are in Hobart Town many scientific and liberal institutions and associations to promote improvement and mutual benefit, supported in a manner highly creditable to any country. It possesses, in the Gardens of the Royal Society of Tasmania, situated in the Queen's Park, a public promenade, which, for natural and picturesque beauty of situation on the margin of the river Derwent, for graceful indulations of surface and tasteful arrangement and design, as well as variety of contents, can scarcely be surpassed. There, in the open air, the orange, citron, lemon, and pomegranate may be seen bearing their rich fruits, with the india-rubber tree 25 feet on the one hand, and black and red currant bushes, &c., inhabitants of cold climes, heavy with fruit, on the other.

Contiguous to the Royal Society's gardens, stands upon a commanding position, the new government house, surrounded with charming grounds, tastefully laid out and planted, the palatial residence of Sir H. E. F. Young, the present governor. It was built at a cost of £60,000.

The government offices, courts, &c., in Hobart Town, are constructed of beautifully white hewn stone, and form a massive quadrangle and handsome lines of buildings. Churches and other public edifices, and whole streets of private residences, are built of the same stone, and have a fine appearance. Placed at the very foot of Mount Wellington (rising to above 4,000 feet), with the estuary of the Derwent, three miles in width, by its side,—a capacious, deep, and tranquil bay, wide enough to float the navies of the world, Hobart Town sits the Queen of Cities, blessed in the possession and enjoyment of the first situation, the finest harbour, and the finest climate of the world,—the capital of fair Tasmania,—a land containing within her bowels the elements of future greatness and of national supremacy—a land whose wild mountains and picturesque hills are warm and bright with sunshine, whose soft valleys are fertile, and ever green, under the influence of genial seasons, and in whose bosom are sons as manly, noble, and generous-minded, as her daughters are fair, virtuous, and accomplished.

DISCUSSION.

Mr. John Youl (responding to the invitation of the Chairman) said—About 80 days since, he was travelling in Tasmania amongst myrtle trees of which the slab upon the table was a specimen. The trees themselves were extremely beautiful, and whole forests of the myrtle tree extended for an unbroken distance of fifty miles, impenetrable to man or beast. The ground upon which these trees grew was of the richest possible description, and the exuberance of the vegetation constituting the undergrowth of these forests was almost incredible. A friend of his, on one occasion, had the curiosity to count the number of trees growing upon an acre of land which was about to be cleared, and he found there were no fewer than 3,000; and yet the hardy pioneers of the country were working their way into the forest in a wonderful manner, and were making great progress, though the land was thickly covered with these beautiful trees. But, perhaps the most extraordinary feature of Tasmania was, the extensive lakes, mentioned in the paper as existing on the tops of the mountains; and he thought the future of Tasmania was a good deal bound up with the irrigation which was at the present time about to be carried out upon the rich land of the country from those lakes, some of which were at an elevation of nearly 3,000 feet above the level of the sea. The depth of these lakes was in some cases extraordinary. Lake St. Clair, from which the River Derwent took its rise, had recently been sounded, and found to be of a depth in many places of 75 fathoms. Another most attractive feature of Tasmania was, that it grew all those vegetables and fruits with which an Englishman was familiar—the gooseberry, the currant, the raspberry, the apple, the pear, grew to the greatest perfection in that country. In fact he almost thought people had never tasted apples in perfection until they had eaten them in Tasmania. Then, again, the potatoe, the cabbage, the cauliflower, and every description of salad, grew to great perfection. As far as the farming operations were concerned it only required the exercise of common industry for any man to get on exceedingly well in that country. The yield of crops to persons who farmed in anything like a proper way, was larger than in any other country with which he was acquainted. The climate was extremely regular and highly congenial to agricultural pursuits, and he could state that, during the 25 years he was in the country, he never had a failure of a crop which had been cultivated with an ordinary degree of care.

Mr. F. Lawrence remarked that 3,000 trees per acre was nearly equal to one tree for every square yard.

Mr. James Oldham said the size to which the myrtle-tree grew might be judged of by the slab upon the table. An acre of land only consisted of 4,840 square yards, and it seemed incredible that 3,000 trees of that size should be found upon that space.

Mr. Youl explained that all the trees were not of the size of the specimen on the table; most of them were much smaller, and many were mere scrub-wood and undergrowth. Trees of the size from which that slab was cut would not be found to exceed 50 or 100 per acre.

Mr. S. R. Solly, F.R.S., inquired whether the apples, pears, and other fruits spoken of were indigenous to the country, or whether they had been imported.

Mr. Youl replied that they had been introduced from this country, but the climate of Tasmania was admirably adapted for the growth of these fruits in the highest state of perfection.

Mr. Eugene Rimmel wished to ask Dr. Milligan whether he could give any information respecting the growth of flowers, aromatic plants, and woods for the purposes of perfumery. He had read, in the *Technologist* of last month, a statement that at the meeting of the Royal Society of Tasmania in December, a paper was read by Mr. W. Archer, the Secretary, upon the plants indigenous to the country, and applicable to the purposes of perfumery, such as the sassafras, the fragrant hound's-tongue, and several species of the acacia, such as the *Acacia Farnesiana*, the French cassie, from which a most valuable essential oil was extracted, and the flowers were sold at a high price. Several kinds of wood were also mentioned, amongst which were the musk-wood; and if it possessed the musk odour it would be extremely valuable. In order to give a commercial value to these plants and flowers, they must be procured in large quantities, and the expense of cultivation must not be too great. Perhaps, as the price of labour was very high in that country, the cultivation of those plants might not be a good speculation; but it was to be borne in mind that two-thirds of the operations might be carried on by female labour. Mr. Archer, in his paper, in speaking of the probable supply of these plants, said:—"Of the substances named he thought that the following might be obtained in sufficient quantities to constitute them articles of commerce; viz., the flowers of the sassafras, different species of acacia, the honeysuckle tree, the native lily, and the fragrant houndstongue; the leaves of rutaceous shrubs, of plants of the myrtle tribe, of the musk tree (*Eurybia argophylla*), and of several plants of the mint tribe; the wood of the native box, and of the box-leaved Alyxia, and the bark of the sassafras."

Dr. Milligan was not prepared to answer the inquiries of Mr. Rimmel, further than to say that the acacia and sassafras grew in great abundance in almost every part of the country, particularly amongst the large mountain trees and in the forests, from the north-west to the south-west extremity of the island. The musk-wood was found in great abundance all over the same district. He had not seen the paper alluded to by Mr. Rimmel. The wood of the *Elixir buccifolia* was not found in any great abundance, but it was one of the most deliciously fragrant woods he had ever met with. It grew chiefly upon the northern and eastern sea coast, and, though extremely valuable, could not be considered in its present supply of any great commercial importance.

Mr. Wm. Hawes said this paper must be regarded as one of a series which had been read before this Society, during the last few Sessions, upon our various colonies; but it was not a paper the interest of which was dependent upon the production, in Tasmania, of a particular fruit or flower; the great merit of the paper was that it had brought before them the advantages which that country possessed, in the opinion of the author, over some other colonies as a place for future emigrants. He had shown that the climate of this island of Tasmania was almost superior to that of our own country, and that there were a greater number of fine days in the year than in England, although England itself was remarkable for the large number of days in the year on an average favourable for out-door occupation. They were told (and the facts mentioned went abundantly to prove it) that not only did timber grow most luxuriantly, but that the wood was extremely valuable, and was capable of improvement by further cultivation. Wool was produced in great abundance and of fine quality; and the rivers were such as to afford ample means of communication as population extended; therefore they might look upon this paper as a valuable production, filling up a gap which had been left in the history of our various colonies, and one of a series upon kindred subjects which this Society had been instrumental in bringing before the public. He thought they must all be struck with the view which Dr. Milligan had taken upon the question of convict transportation to our colonies. He (Mr. Hawes) recollected that in the colony with which he was more particularly connected—the Cape—when it was proposed to send the best class of convicts there, so great was the prejudice of the inhabitants against the measure, so strong their determination not to admit convicts, that the governor, who was supposed to be favourable to their introduction, was for a time almost unable to obtain a supply of the necessaries of life; so powerful was the combination against all who were favourable to this measure. The inhabitants at the time appeared to forget that labour was very dear, and that convict labour could be advantageously applied to the construction of roads, bridges, and the other public works so important in a new settlement. Looking, however, at the facts as presented in other colonies, they must admit that convict labour had been of great service; and he gathered from the paper that it was the opinion of Dr. Milligan that not only had transportation been beneficial to the colony but also to the convicts themselves; men transported from this country, in a few years obtained their liberty, and became merged in the general colonial population, becoming industrious, steady, and capable of discharging the various duties of life. If that were the case the facts were of much importance, and he therefore hoped this paper would not only be extensively circulated amongst the members of the society in this country but also amongst the population inhabiting in our colonial possessions, for he believed that great good would be done by showing, from reliable statistics, that convict labour had been of great service to our colonies. There was another point in the paper which struck him, namely, the great advantage of these growing colonies to the mother country. They found that the increase in sheep in Tasmania was going on in a ratio more rapid than was the case in most other colonies. It had been stated that eight sheep per acre could be supported in this colony, which was greatly beyond anything he had heard of before.

Dr. Milligan explained that that was upon the irrigated pastures: this could not be done in uncultivated land, and was stated rather in contrast to the natural state of the country. The average might be taken as one sheep to two acres, throughout the Australian colonies.

Mr. Hawes remarked that that was below the average of some other colonies. It was, however, quite clear, from the facts which had been laid before them, that the climate of Tasmania was highly favourable for the production of wool, as well as other articles, useful to this country. He could not help referring particularly to one description of wood mentioned, viz., the blue gum-tree. In South Africa they owed to this colony the introduction of the blue gum-tree. It was remarkable for the rapidity and regularity with which it grew, and was a valuable wood when grown. The growth of this tree in South Africa was at the rate of ten feet in height per annum. A tree growing for ten years would attain a height of seventy feet, and would be twelve to fifteen inches in diameter at the bottom, with a straight stem, with few branches, and those high up—a perfectly sound, solid, useful wood, and its durability, according to Dr. Milligan, was as remarkable as the rapidity with which it grew. The introduction of that tree into the Cape was of the greatest importance, and had been the means of converting a country, previously almost without a tree, into a well-wooded region. As regarded fruits and vegetable products, he believed other colonies rivalled Tasmania. They must feel greatly obliged to Dr. Milligan for having brought this subject so ably before them.

Mr. P. L. Simmonds said that having given some attention to colonial subjects for many years, he most heartily concurred in the terms of commendation bestowed on Dr. Milligan's paper by Mr. Hawes. It was a paper the historical research, scientific detail, and statistical information of which could only be thoroughly appreciated by quiet and careful study, instead of in the abridged form in which it had necessarily been read that evening. Such papers, diffused through the medium of the Society, did much to place the colonies fully and fairly before the British public, in the absence of those colonial agents in London who were formerly retained by the principal colonies to advocate their interests and to furnish information as to their capabilities, resources, and requirements. While doing full justice to Tasmania, Dr. Milligan had done so without making invidious comparisons with other colonies. The timber resources of Tasmania, extensive as they were, had scarcely had justice done to them in this country—and yet its woods were most important, as the information given by Dr. Milligan, and the samples before them, evidenced. Blue gum was already exported from the colony to the value of £250,000 a year, and this amount might be easily quadrupled if it found a European market. Tasmania was pursuing a wise course in the large amount of information they were diffusing throughout Europe by their collection of products at the International Exhibitions, and at the Crystal Palace, by such admirable official hand-boooks as that of Mr. Hull. The present paper was the more *apropos*, as Sir W. Hooker, in his report on the Paris Exhibition, had spoken rather disparagingly of the collection of Tasmanian raw products shown there, which he considered inferior to that exhibited in Hyde Park in 1851. He (Mr. Simmonds) was not present at the Paris Exhibition, but, judging from the catalogues, number of exhibitors, space occupied, and articles shown, the colony was by no means badly represented on many points. It stood second of the Australian colonies, and far before the more wealthy colony of Victoria, occupying 429 superficial feet of space, and numbering 118 exhibitors. It was so far an evidence of progress, that the four colonies which did show at Paris covered with their products nearly double the amount of space occupied by all the Australian colonies in 1851; and he trusted to see the colony maintaining its position by evincing an equal desire to stand well before the public in 1862. Judging from the interest manifested in the island journals, there was little doubt of Tasmania occupying a creditable position; and, as was well observed in one of their latest colonial daily journals, the colony could not direct its attention to any subject of equal importance with the display of those native products that were capable of being converted into articles of common use. The approaching Exhibition of Industry might be turned to most serviceable account by being made to illustrate the ample and varied natural wealth of the colonies. The previous Exhibitions had, no doubt, stimulated the operations of trade, by giving wider publicity to the various resources of different nations, and by opening new markets to their produce. This was the special benefit these great Industrial Congresses conferred upon young countries and new industries.

Mr. Parker said there was one question of Mr. Rimmel's, with regard to the cultivation of flowers and plants for perfumery, to which no reply had been given by Dr. Milligan. It had been said that a great deal of this operation could be carried on by female labour, but Mr. Rimmel must have forgotten that, unlike England, labour, both male and female, was very scarce, particularly the latter. He saw a letter from the Bishop of Tasmania, in which he stated he was obliged to clean his own boots. During the gold mania there was an immense demand for all descriptions of female labour, and the government of the colony was spending several thousands a year to induce female immigration. He therefore apprehended that they could not look to the cultivation of flowers for perfumery being carried on by the female population of the colony for a very long time to come.

The Chairman thought they would all agree that they were much indebted to Dr. Milligan for the very able and interesting paper he had read. It was one which, in his opinion, ought to be generally circulated, as it was a valuable addition to their colonial information; and he thought the colony of Tasmania, which it was his good fortune to have visited a few years ago, was one which of all others was best fitted, from a variety of circumstances, for either an English gentleman or an English labourer to dwell in. Labour was very valuable there. No man with the slightest energy could have the excuse of not being able, with the greatest ease, not only to earn his daily bread, but also a considerable amount of money, which he could either lay by for future years, or employ in the improvement of his social position. It was also a colony in which an Englishman would, perhaps, feel himself particularly at home, from the associations he would meet with on all sides, and from the strong English feeling which existed there, as well as from the circumstances of the climate, soil, and general features of the country, which would not remind him of his absence from his native land. It was a country in which association with the present colonists would immediately make him think he was amongst his own friends and fellow kinsmen at home. There were several points touched upon in the paper as to the resources of the country. The question of timber was a very important one to this country, inasmuch as timber for ship-building purposes was greatly needed, both for the royal and merchant navies. The description of timber most required was not so much the long straight planking, as that of a knotted and hard quality, suited for the knees and bends of vessels. In this respect the timber produced in Tasmania was peculiarly suitable, and it also possessed the valuable quality of never having been known to suffer from dry rot. It would also be valuable for railway sleepers and telegraph posts, which were every day more and more required. He (the Chairman) had endeavoured to introduce the blue gum tree into this country, and had planted out saplings raised from seed. He found that the plants from the seeds obtained from Tasmania did not stand the severity of our winters so well as those raised from the seed of a species of gum from Victoria. The trees acquired in four or five years' growth a height of nearly 20 feet, being only sheltered during winter by a mat covering. He believed the tree could be easily acclimatised in this country, and he had no doubt it would thrive best in the south-west parts of England, where the frosts were not generally so severe as in some other districts, and thus its growth might be extended over the country, and it would form a valuable addition to our present varieties of timber. Another point of interest was the cultivation of the silkworm in this colony. From all he had observed, he quite agreed with the opinion of Dr. Milligan, that it would be attended with success, and that the green leaves of the mulberry tree could be obtained throughout the greater portion of the year, by a succession of crops, for the food of the silk worms. Another question was the attempted introduction of salmon into the rivers of this colony, a matter in which his friend Mr. Youl had taken so active a part. He believed the last experiment failed only in consequence of an insufficient quantity of ice for the protection of the ova during the passage through the hot latitudes. He was glad to find that the attempt to introduce that fish was to be renewed, and if successful, it would add very materially to the wealth of the colony; and the fine sport of salmon fishery might be engaged in in Tasmania as it was in the Tweed at the present day. All these things together afforded a most encouraging view of the future of Tasmania. He would express a hope that this paper would be largely circulated, through the means of the Society's *Journal*, for the general benefit of our colonies, and the advantage of this country. He was sure they would all agree in according their thanks to Dr. Milligan for his very able paper.

The vote of thanks was then passed.

The paper was illustrated by some pictures of Tasmania, kindly contributed by Dr. Price, from the Tasmanian Court of the Crystal Palace, with specimens of the fine wool of the colony, of the Tasmanian myrtle (*Fagus Cunninghamii*), the celebrated Huon pine, the musk tree, and other ornamental cabinet woods. Dr. Milligan exhibited a handsome rug of the skin of the black opossum, and a collection of gems, amongst which were topazes of the first water, cairngorms of large size, and others.

The Secretary announced that on Wednesday evening next, the 17th inst, a Paper by Mr. J. Crawford, late Governor of Singapore, "On Cotton Supply," would be read. On this evening Sir J. P. Kay Shuttleworth, Bart., will preside.

ROYAL NATIONAL LIFE-BOAT INSTITUTION.

The following is an abstract of the Annual Report of this Institution for the current year:—The Report begins by stating that year by year the field of the operations of the National Life-boat Institution had extended—its life-saving fleet had been added to—and the greater in proportion to the number of wrecks on our coasts had been the number of lives that have been saved from premature death through its instrumentality. By its Charter of Incorporation the Institution was now legally entitled, by the bequests of deceased persons, to possess landed property to the extent of £2,000 per annum. Her Majesty the Queen, who since 1837 had been the patroness of the Society, had, in appreciation of the important and national character of the work of the Institution, become an annual subscriber of £50. During the past year it had established 17 new life-boats on the coast, and others were in course of construction for several other places. The Institution now possessed no less than one hundred and ten life-boats. Some of them had been directly instrumental in saving two hundred and ten lives from thirty-four vessels during the preceding year. Since the 1st of January last, the life-boats of the Society had also saved no fewer than one hundred and sixty-two persons. The Committee had taken steps to provide the life-boat stations of the Institution, wherever desirable, with standard barometers, properly fitted up, and the daily indications of which would be registered on a chart or diagram by the side of the instrument. The total number of wrecks on the coasts of the United Kingdom, during the past year, was 1,379; the average of the last seven years being 1,184, whilst the total loss of lives in 1860 was 536, the average for the last seven years being 800. The number of lives saved during the year 1860, by the life-boats of the Institution, the rocket apparatus, and other means, was 3,697. The total number of persons saved from shipwreck, from the establishment of the Institution to the end of the year 1860, either by its life-boats, or for which it had granted rewards, was 11,856. During the past year, the Institution had granted 16 silver medals, 14 votes of thanks inscribed on vellum, and the sum of £1,111 12s. 4d. in pecuniary rewards, for saving 455 shipwrecked persons. The operations of the Institution might be thus briefly stated:—Since its formation, it had expended on life-boat establishments, £46,350 8s. 3d., and had voted 82 gold and 673 silver medals for distinguished services for saving life, besides pecuniary awards, amounting together to £14,015 19s. 11d. Its medals and other honorary awards were much coveted by the coast boatmen and men of the Coast-guard service, and the amount and prompt payment of its pecuniary rewards afforded general satisfaction. Its medals were not unfrequently presented at public meetings. The total receipts during the year 1860 amounted to £14,027 11s. 2d.; of this sum no less than £2,721 had been given by philanthropic individuals to defray the cost of fourteen life-boats. Legacies had also been left to the Institution during the past year by several benevolent persons. The expenditure during the same period had been £13,085 8s. 11d., of which sum £6,834 17s. 4d. was expended on additional life-boat, carriages, boat houses, and necessary gear; and £3,056 3s. on the necessary expenses of repairs, painting, and refitting; £1,266 15s. 10d. in rewards for services to shipwrecked crews; and £1,665 6s. 2d. on coxswains' salaries, and for the quarterly practice of the boats' crews. The Institution had incurred further liabilities amounting to £4,419 for various lifeboat establishments, &c. Whilst the Committee were, happily, able to report so favourable and encouraging a state of the financial department of the Institution, they felt that, looking at the vicissitudes of the future, and the unforeseen magnitude which the operations of the Society had assumed, they must not for a moment relax their endeavours to enlist that co-operation and pecuniary assistance of all classes of their countrymen, which could alone secure the permanent efficiency of the important work which they had undertaken to superintend. They therefore appealed to the country at large to assist them to maintain, in a state of thorough efficiency, the numerous life-boat establishments of the Institution.

Home Correspondence.

THE ECONOMIC HISTORY OF PARAFFINE.

Sir,—As the production of paraffine, and the oils which accompany it, has been a manufacture familiar to me for the last dozen years, perhaps I may be allowed to make a few remarks upon the paper read upon the above subject, by Mr. Tomlinson, before your Society on the 20th March.

In the first place I think Mr. Tomlinson goes out of his way when he concludes that M. Faujas de St. Fond obtained the information from "Lord Dundonald's works, that on distilling coals he got oils, &c.;" for, in my opinion, the obtaining oils, &c., by distilling coals, was a thing well known at that time in France, at least, as I shall show, if not elsewhere, to any one acquainted with the literature then existing upon the use of coals. In confirmation of this I would first direct your attention to a book published in Paris, in 1770, in two large quarto volumes, written by M. de Genssane, a high celebrity, and, among other things, a corresponding member of the Royal Academy of Sciences. Of course his book is in French, but the title, translated into English, is as follows:—"Treatise on smelting ores by means of coals, or treatise on the construction and use of furnaces for smelting and refining metals and minerals, by means of coals, together with the mode of adapting said coals to the same purposes for which charcoal is commonly used;" and chapter 12 of the first volume is devoted to "the construction and use of a furnace" for making coke from coal. This is fully illustrated by diagrams, and attached to this furnace is an apparatus for condensing the volatile products given off in the coking of the coal. But this is not all, for at pages 280 and 281 he says, "the oils and bitumens obtained through that process (the coking) cover almost the cost of the operation." He then goes on to describe how he treats the distillate to separate the light oil from the bitumen, as he calls it; but in reality it is paraffine, as we now know, dissolved in the so called paraffine oil, and which he describes as "very fat and flowing, and equal to the best grease for lubricating carriages." In describing the light oil he says as follows: "As for this oil it differs from distilled petroleum only by the latter being highly combustible, and by igniting all at once, whilst the oil of coals prepared in the foregoing manner, is much less so, and may be used with great advantage in lamps for country people. No other light is employed in the mines of Sultsbach."

It is very likely that Lord Dundonald knew of the process above alluded to, when he took out his patent in 1781 for distilling coals, but I do not say that Lord Dundonald took the idea of getting oils from coal by distillation from this process, for, from all I have read, it was generally known long before that, oils could be got by distilling coals in close vessels; at any rate, that it was well known at the time Lord Dundonald obtained his patent. His specification furnishes this fact, for he says, page 2, line 19, "persons who shall extract tar, &c., from pit-coal in vessels or buildings, it matters not their shape or size, whereby the coals are made to burn or ignite without flaming by a regulated admission of the external air through different apertures in the buildings, so as by their own heat to throw off the tar, oils, &c., that they contain —persons who do so without my permission are deemed to encroach upon my patent; as the only method used and known, until my new discovery, was a distillation of coal in close vessels, where the admission of the external air was prevented, and where other fuel or coals were required besides the coals contained in the close vessel, to produce the heat necessary to pervade the same, and to cause the coals contained therein to throw off the tar, oils, &c., that they contained."

Although I say Lord Dundonald, with many others, knew that oils were obtained on distilling coals, I do not say but that the success with which the process described by Genssane was attended may not have led him to think of a more simple way of getting oils, &c., and coke, for he coked the coal for a company who manufactured iron, his only remuneration for so doing being the volatile products which he afterwards rectified and sold.

Without going further into this part of the subject, I would wish to call your attention to a much more important point, and that is with reference to Reichenbach, the distinguished chemist, who first eliminated, examined, and described the properties of this beautiful substance paraffine, and gave a process for obtaining it from coal, the selfsame process as is now adopted at the present day, whether coals, schist, peat, or any such substances are distilled for paraffine or for the oils accompanying it, on the Continent or here, although Mr. Tomlinson has thought fit to say in his paper, speaking of the results of Reichenbach and a Dr. Bley (of the latter I would say nothing), "These failures as they must be called, so far as respects coal, arose from misapprehension respecting the required temperature, the manipulation of the gas house naturally suggesting a high degree of heat; and inquirers did not recur to the earlier methods of trying the effects of a comparatively low one."

Now this is not so, but quite the contrary is the case, as I think I shall clearly show any impartial person. I do not know how Mr. Tomlinson should have been led to make such a statement as the above, and can only think he could not have perused the original writings of Reichenbach, but must have his information from some biassed source. Reichenbach's results upon the dry distillation of organic bodies are conveyed to the public in five original papers which appeared in the *Neues jarbuch der Chemie und Physik*, by Schweigger-Seidel, between the years 1831 and 1833. In his first paper, in the first volume of the above book, published in 1831, page 177 *et seq.*, he gives a description of the process he followed, namely, by heating the coals in a retort, by means "of a sand bath, at a very low temperature, and gradually increased to a red heat." Reichenbach says, no naphthaline was contained in the tar after this process. At page 184 of same memoir, he says, "at high temperatures, that is, by heating the vapours to a red heat, soot and naphthaline are produced, and if any tar be heated so as to convert it into soot, naphthaline is produced." "That high temperatures produce naphthaline, none of which is in his tar, although said to be found by others in the tar which they examined." In a second memoir, published in the same volume at page 281 *et seq.*, he gives a review of the old processes of distilling coals or other like substances when paraffine is sought for in the tar, and shows the defects in such processes to consist among others, in using a high temperature in producing the tar; he also states, at page 288, that different results were obtained according to whether there was a high or a low temperature used; lastly, he purifies his crude product by means of sulphuric acid, the chemical now, I may say, universally used. If what I have already written is not enough to show that Reichenbach knew that low temperatures were everything when distilling coal for paraffine, and that he pointed it out, I have much more strong proofs, for, curiously enough, M. Dumas, the celebrated French chemist, from experiments made by M. Laurent upon tar, asserted that coal contained naphthaline already formed in it, as Mr. Laurent had always found it in the tar from coal, and that Reichenbach was wrong in saying tar of coal did not always contain napthaline. This brought a reply from Reichenbach, which appeared in several journals, and amongst others in the journal quoted above, and in the second volume for 1833, page 223 *et seq.*, throughout the whole of this memoir he calls attention to the use of low temperatures, and the disuse of high temperatures, or you get napthaline. I will only make a few quotations out of many. At page 226, after stating that he does not doubt M. Dumas found napthaline in his coal tar, and asking the question how did he get his tar, he proceeds to say, "that there is a difference between tar and tar, and that tars assume a very different chemical composition, according as they are obtained from red-hot vessels, or from vessels below that temperature, and heated only to the temperature of carbonization, and this difference directly concerns the amount of the napthaline in the highest degree, which may turn out in one case to be exceedingly great, and in another diminished to nothing. With regard to this, M. Laurent and M. Dumas do not say a word. We gather from their writings no indication as to whether the tar was purposely and purely prepared, or was from the coal tar of the ordinary gas works. If it came from the great establishments at the slaughter-houses of the Faubourg Montmartre, which I myself have seen, it then embraces all the conditions of a substance richly supplied with naphthaline." Further on, in speaking of the quantity of oil obtained on distilling tar, he says, "Such tar as is prepared at a high red heat, as in gas works, is much surcharged with pitch and soot, and yields, therefore, on distillation, scarcely a half of oil of tar;" this, he says, was the kind of tar Laurent used, and not such as he prepared for himself from coals "by careful and *scrupulous* protection from all excess of temperature above simple carbonization." These are Reichenbach's own words, and still further on he describes how the process is conducted, premising by saying, "the vessels in which the carbonization is performed should on no account attain a red heat," and concludes the description of the process as follows:—"So long as I proceeded in this manner I always obtained tar which was composed of eupione, paraffine, &c."

I do not think it will be necessary for me to make further quotations from this memoir, to substantiate what I have stated above, and to satisfy most people that to Reichenbach, and Reichenbach alone, is due the credit of pointing out to the world that coals distilled at low temperatures will yield paraffine and eupione, of which the now-called paraffine, or burning oil, is principally composed

I am rather at a loss to know how Mr. Tomlinson, with a knowledge of the works at Autun, in France, where paraffine and burning and lubricating oils have been manufactured on a large scale as early as and since 1846, by distilling schist and paper coal, or lignite, should say as follows:—

"In the great Exhibition of 1851, Mr. Young obtained credit, and justly, for the production of paraffine in considerable quantities. The former processes, although containing all that was necessary for its production, were not commercially successful. Either they do not produce the article in sufficient quantity, or at a sufficiently low cost to be profitable. Mr. Young has the great merit of first drawing public attention to the commercial value of paraffine, and of pointing out the sources from which it could be profitably extracted." Nor do I think Mr. Tomlinson was aware of the following, which is a quotation from a paper by Runge, in Erdmann and Schweigger-Seidel's Journal Fur Pracktishe Chemie, vol. i., 1834, p. 31, "On Certain Products on the Distillation of Pit-coal," when he wrote the above:—

"In the 2nd part of the 18th volume of the 'German Year-Book of Pharmacy,' published by Professor Dr. Lindes (1833), which has just reached us, we read, at page 247, an advertisement about the sale of eupione, creosote, paraffine, and naphthaline, which are prepared for sale in large quantities by Herr J. E. Simon, an apothecary in Berlin, and which, to suit the convenience of purchasers, have been furnished to two of the most respectable druggist firms there—Braumüller and Son, and Lampe, Kaffmann, and Company, from whom, consequently, these articles may also be obtained."

I am likewise of opinion that, if Mr. Tomlinson were told that Mr. Young himself, upon his oath, in a court of justice, at the latter end of last year, had been obliged to admit that, although he had been distilling the Boghead coal, or Torbanehill mineral, on a large scale since about the year 1850, or 1851, it was only within "the last two years" that he had made paraffine on a commercial scale,* I should think that he (Mr. Tomlinson) would rather doubt whether Mr. Young had not obtained somewhat too much justice in the Exhibition of 1851, when he then obtained credit "for the production of paraffine in considerable quantities."

I intended to have written upon one or two other points, but my time will not admit of my doing so now. The books I have quoted from are all in the library of the Great Seal Patent Office, along with several others upon this subject.—I am, &c.,

DUGALD CAMPBELL,
Analytical Chemist to the Brompton Hospital.

7, Quality-court, Chancery-lane,
March 27, 1361.

INTERNATIONAL EXHIBITION OF 1862.

Sir,—In my report on "Silk Manufactures" (Class 21 of the Paris Universal Exhibition of 1855) I ventured to make the suggestion contained in the following extract therefrom, with regard to future arrangements. As I presume it may still be an "open question," I think that this would appear to be a suitable time for calling attention more immediately to it, so that in the event of nothing unsound being detected in the principle itself, opportunity may be afforded for the discussion of such modifications as experience in other departments than that to which my attention was more especially confined may suggest, and such as may appear best calculated to give it full effect:—

"It may be beside the strict province of this report to venture a suggestion for the future arrangement of International Exhibitions, but it would vastly assist jurors, purchasers, and visitors generally, and be in harmony with their ostensible object, an arena for free competition, if all of a class were exposed in one locality. In the class under review, both in 1851 and 1855, silks and silk manufactures were distributed throughout all parts of the buildings, and no opportunity, therefore, was afforded for comparison of country with country, with the additional risk in obscure districts of no examination at all."

I am, &c.,
THOMAS WINKWORTH.

Gresham Club, April 9.

AMERICAN IMPLEMENTS.

Sir,—During the discussion on Dr. Eddy's most interesting paper, on the evening of the 3rd inst., it was stated that the Sheffield makers turned out axes, &c., as well, and of quite as good a quality as the Americans. I am sincerely glad to find that such is the case, for the following extract from the report of our Consul in Para (Brazil), in 1856 and 1857, shows that a very different state of things existed. He says:—

"It is a very remarkable fact, that, excepting the implements of this nature made by one or two Sheffield houses, the temper of the steel (if, indeed, there be any steel in them) in the tools which we receive from Great Britain, is so ill-adapted for working the hard woods of this country, that such tools are perfectly useless and unsaleable, whereas those which come from the United States are generally good.

"I have thought it worth while to draw particular attention to this fact, because the rage for what is miscalled cheapness, which has impaired this branch of manufacture, in which Great Britain has claimed, and may claim, to be pre-eminent, drew forth much remonstrance in England some time ago, in relation to the productions of other countries exhibited at Paris; and because there is a rapidly increasing demand for these commodities here, a demand which Great Britain can doubtless supply. It is to be noticed that the American tools above-mentioned are constructed of steel exported from Great Britain."

I need not notice the rubbish supplied to our soldiers and others during the Crimean war as proofs of the necessity of a reform in this direction, for most of us can find sufficient proofs of this in our own experience of the use of such articles.

Dr. Eddy seemed to think the manufacture of watches by machinery was an American practice exclusively, or nearly so. It gives me pleasure to inform him that he can see this plan carried out, in a very perfect manner, in the manufacture of a very elegant and simple watch, by Mr. Alexander Watkins, of the Strand.

I may remark, as to what is doing in France, that I saw, whilst in Paris a short time since, articles manufactured from iron purchased in England, taken across the Channel, made up, and brought back to this side, and sold at prices that we cannot touch, in spite of our machinery, &c., the workmanship of them being, I may observe, very superior.

I found the American wood implements of excellent workmanship in many places where I examined them when over there. I am, &c.,

C. F. T. Y.

London, April 5, 1861.

MEETINGS FOR THE ENSUING WEEK.

Mon. ...Medical, 8½. Mr. P. C. Price, "On Congenital Phymosis, considered as a frequent cause of irritation of the Urinary Organs of Young Children; the importance of its early recognition and removal."
United Service Inst., 8½. Lieut. Doull, R.A., "The Principles of Fortification applied to existing Arms, &c."
Tues. ...Royal Inst., 3. Prof. Owen, "On Fishes."
Civil Engineers, 8. Mr. Wm. Hall, "On the Floating Railway at the Forth and Tay Ferries."
Statistical, 8. Mr. W. L. Sargant, "On the fallacy of Mr. Warburton's argument in favour of an Indiscriminating Income Tax."
Pathological, 8.
Wed. ...London Inst., 7.
Society of Arts, 8. Mr. J. Crawford, "On Cotton Supply."
Thurs...Royal Inst., 3. Prof. Tyndall, "On Electricity."
Royal Society Club, 6.
Linnæan, 8. Mr. J. D. Macdonald, "On the circulation of the blood in *Pegea*, and on the physiology of the Pallial Sinuses of the *Brachiopoda*."
Chemical, 8. Prof. Abel, "On the application of Electricity to the explosion of gunpowder."
Royal, 8½.
Antiquaries, 8½.
Fri. ......United Service Inst., 3. Commander R. Scott, R.N., "Naval Ordnance and Maritime Defence."
Royal Inst., 8. Mr. John Ruskin, "On Tree Twigs."
Sat. ......Asiatic, 3.
Royal Inst., 3. M. Max Muller, "On the Science of Language."

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* See report of trial of Binney and Company, against the Clydesdale Chemical Company.

PATENT LAW AMENDMENT ACT.

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APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, March* 29*th*, 1861.]

Dated 20*th March*, 1861.

699. G. Peacock, Regent House, Starcross, Devonshire—Imp. in anchors.
700. W. E. Gedge, 11, Wellington street, Strand—An improved fabric for covering billiard and bagatelle tables and other similar uses. (A com.)
701. N. Lloyd, Church, near Accrington, and J. G. Dale—Imp. in dyeing and printing textile materials and fabrics.
702. J. E. McDoual Litchfield-street, Soho—An improved fastening or coupling.
704. M. Henry, 84, Fleet-street—Imp. in treating yarns and threads of silk and other fibrous materials for purposes of restoring colour thereto and improving their quality and appearance, also in apparatus employed in operating on yarns and threads. (A com.)
705. M. J. F. Chappellier, Brussels—Imp. in manfacturing playing cards.
706. S. H. Scott, Bourn—Imp. in drawing instruments.

Dated 21*st March*, 1861.

714. T. Greenwood, Leeds, and A. Kinder, Great George-street, Westminster—Imp. in machinery for cutting or working in wood.

[*From Gazette, April* 9*th*, 1861.]

Dated 24*th November*, 1860.

2888. P. Dorgeval, Lyon, France—Imp. in machinery used in the manufacture of silk and other fabrics.

Dated 9*th February*, 1861.

333. C. While, Pontypryud, Glamorganshire—Improved rolling machinery for rolling iron and other metals.

Dated 27*th February*, 1861.

594. C. Stevens, 31, Charing Cross—Improved iron blinds. (A com.)

Dated 2*nd March*, 1861.

534. T. Haigh, Liverpool, and A. Robertson—Imp. in apparatus applicable for boiling, cooling, and fermenting malt liquors, part of which may be applied to other purposes.

Dated 14*th March*, 1861.

626. J. C. Coombe and J. Wright, 42, Bridge-street, Blackfriars—Imp. in the means of preserving stones, bricks, slates, wood, and other analogous materials from the action of atmospheric and other influences, and also in the manufacture of mortar, cement, artificial stone, and such like substances.
630. C. Gammon, Cloak-lane—Imp. in the mode of forming ventilators.

Dated 16*th March*, 1861.

666. C. Stevens, 31, Charing Cross—Improved agricultural implements. (A com.)
672. J. Robb, Dundee—Imp. in machinery or apparatus for treating hemp, flax, jute, and other fibrous substances requiring a similar treatment.

Dated 18*th March*, 1861.

675. J. Arrowsmith, Bilston, Staffordshire—New or improved machinery or apparatus for fixing the windows of railway and other carriages at any required height.
679. C. Clayton, J. Breedon, and A. Schneider, Deptford, Kent—A self-acting socket for taps, fire-plugs, and such like purposes.
681. M. Henry, 84, Fleet-street—Imp. in furnaces in which combustion is carried on for obtaining gases or gaseous products to be usefully applied (A com.)
682. J. S. Miller and T. P. Miller, Springfield Works, Dalmarnock, N.B.—Imp. in fixing colouring matter, more especially those derived from analine or other similar bases, on fibrous materials and textile fabrics.

Dated 19*th March*, 1861.

683. S. J. Wilkinson and G. F. L. Meakin, 14a, St. Mary Axe—Self-acting window fasteners.
689. J. A. Bolton, Campbell-house, Leicester—An improved apparatus for heating Turkish baths, public and private buildings vineries, hot-houses, and cooking ovens.
661. J. Chalmers, Montreal, Canada—Imp. in constructing roadways under water.

Dated 21*st March*, 1861.

707. M. A. F. Mennons, 39, Rue de l'Echiquier, Paris—Imp. in gas cock-stops. (A com.)
709. G. Baxter, Govan, Lanark, N.B.—Improved apparatus for propelling vessels.
711. J. Rhodes, Wakefield, Yorkshire—Imp. in means or apparatus for generating steam.
713. A. Heaven, 2, Richmond-grove, East Longsight, Manchester, and R. Smith, 24, Higher Chatham-street, Chorlton-upon-Medlock, Manchester—Imp. in embroidering machines.
715. W. Clark, 53, Chancery-lane—Imp. in apparatus for cutting and shaping metals. (A com.)

Dated 22*nd March*, 1861.

717. F. J. Wagon, Issy, near Paris—Imp. in the manufacture of soap.
720. T. Hindle, Blackburn—Imp. in looms for weaving.
721. W. Clark, 53, Chancery-lane—An improved method of locking the nuts on railroad rail bolts. (A com.)
723. J. Armour, Perceton Fire Clay Works, Kilmarnock, N.B.—Imp. in increasing the generation of steam in boilers.
724. E. Humphrys, Deptford—Imp. in steam engines.
725. T. Thomas, Rawtenstall, Lancashire—Certain imp. in apparatus for spinning and doubling cotton and other fibrous materials.
726. J. Graham, Warrington Junction, Lancashire—Imp. in preparing and annealing iron wire.
727. S. Jackson, Sheffield—Imp. in the manufacture of spades, shovels, and other articles of a similar nature.
729. A. Haley, Frome, Somersetshire—Imp. in power looms for weaving check patterns, and in connecting rods for power looms.
730. J. Potter, Leeds—Imp. in the construction of wire and other similar fences

Dated 23*rd March*, 1861.

731. J. C. Rivett, Prestolee New Mills, Farnworth, Manchester—Certain imp. in machinery for carding cotton and other fibrous materials.
735. J. H. Johnson, 47, Lincoln's Inn Fields—Improved skating chair. (A com.)
737. J. Spencer, Doncaster—Imp. in the construction of harrows.
738. T. Cardwell, London, and D. Campbell, Liverpool—Imp. in machinery for pressing or baling cotton and other substances.
739. H. Wickens, 4, Tokenhouse-yard—Imp. in shuttles for weaving.

Dated 25*th March*, 1861.

741. P. R. Hodge, 36, Blessington-road, Lee, Kent—An hydraulic press, which he terms his improved inverted hydraulic press for pressing of hay, straw, hops, hemp, or flax, cotton, or animal wool, animal or vegetable oils, or any other materials.
743. Sir W. G. Armstrong, Elswick Ordnance Works, Northumberland—Improved breech-loading cannon.
745. J. Brown and R. Gregson, Middleton, Lancashire—Certain imp. in self-acting mules for spinning cotton and other fibrous materials.
747. W. Bailey, Wolverhampton—Imp. in the manufacture of globes, or shades, and chimnies for lamps, gas lights, and gas burners.
749. W. Brookes, 73, Chancery-lane—Imp. in means or apparatus for measuring gas. (A com.)
751. J. Spencer, jun., and M. Spencer, Newcastle-upon-Tyne—Imp. in the manufacture of cast-steel tires.
753. J. Chatterton, Highbury, and W. Smith, Dalston—Imp. in submarine telegraph cables.

INVENTION WITH COMPLETE SPECIFICATION FILED.

774. J. C. Keen, Birmingham—An imp. or imps. in the manufacture of braces.—28th March, 1861.

PATENTS SEALED.

[*From Gazette*, 9*th April*, 1861]

April 9*th*.

2473. F. C. Bakewell.
2476. T. Wilson.
2482. J. W. Rogers.
2483. J. A. West.
2484. R. A. Brooman.
2497. M. Deavin.
2503. G. Davies.
2552. J. Thompson, E. G. Fitton, and F. A. Fitton.
2559. W. Young.
2562. W. Grimshaw.
2567. W. Clark.
2677. J. H. Johnson.
2578. W. H. Tylor.
2583. J. Webber, jun.
2593. W. R. Taylor.
2654. W. E. Newton.
3020. A. Granger.
8. J. F. Belfield.
132. M. A. F. Mennons.

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

[*From Gazette, April* 5*th*, 1861.]

April 1*st*.

694. A. P. Dadley & N. Brough.

April 2*nd*.

710. J. Fowler, jun.
756. G. E. Taylor.
760. T. Greenwood, J. Batley, and J. Dockray.
762. T. Greenwood & J. Batley.
813. A. V. Newton.

April 3*rd*.

724. S. Fox and J. Chesterman.

[*From Gazette, April* 9*th*, 1861.]

5*th April*.

1702. W. A. Gilbee.

6*th April*

735. D. Davy, W. Bentley, and J. Davy.

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

[*From Gazette, April* 5*th*, 1861.]

April 2*nd*.

781. W. E. Newton.

April 3*rd*.

766. J. Higgin.

[*From Gazette, April* 9*th*, 1861.]

April 4*th*.

819. W. Rigby.

April 6*th*.

800. Julian Bernard.